Unemployment and Benefit Durations

Final Report

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The views expressed in this study are the personal views of the author and not necessarily those of HRDC.

Preface

Human Resources Development Canada (HRDC), in its policies and programs, is committed to assisting all Canadians in their efforts to live contributing and rewarding lives and to promote a fair and safe workplace, a competitive labour market with equitable access to work, and a strong learning culture.

To ensure that public money is well spent in pursuit of this mission, HRDC rigorously evaluates the extent to which its programs are achieving their objectives. To do this, the Department systematically collects information to evaluate the continuing rationale, net impacts and effects, and alternatives for publicly-funded activities. Such knowledge provides a basis for measuring performance and the retrospective lessons learned for strategic policy and planning purposes.

As part of this process, the Department commissioned five formal evaluation studies on how Canadians adjusted to the 1994 UI reforms. These studies were performed by external academic subject-matter experts. Each evaluation represents a stand alone analysis of a specific topic.

Bob Wilson
Director General
Evaluation and Data Development

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Executive Summary

Context

This report summarizes the results of research into the effects of Bill C-17, a piece of legislation which made a number of changes to the Canadian unemployment insurance (UI) system in 1994. Principally, Bill C-17 lowered the UI benefit replacement rate from 57 percent to 55 percent of insurable earningsintroduced a low-income with dependents category of recipient eligible for a higher replacement rate of 60 percent altered significantly the entrance requirements necessary to qualify for UI, making qualification harder, and amended the formula mapping weeks worked into UI coverage earned, reducing the typical length of UI entitlement for a given period of qualifying employment.Although these changes have since been superceded by the more comprehensive reforms introduced as Employment Insurance in 1996, there is interest in understanding the effects of C-17 itself as well as in gleaning the more general lessons that can be learned from this policy change.

Methodology

The methodology of this study is to examine individuals with separations from jobs before and after the Bill C-17 changes and, controlling for other factors that may differ between the samples, thereby infer the "quasi-experimental" effect of the C-17 changes. Such methods have gained considerable analytical appeal in recent years and have the potential merit of being less reliant on an assumed model structure than traditional structural estimation methods.In addition, the clear changes from C-17 provide variation in program parameters that is reasonably viewed as exogenous to the individual, in contrast, say, to analysis of time-series data on UI where program variables such as benefit rates and eligibility are driven largely by individual-specific effects, such as past work history. To accomplish this evaluation, this study uses two waves of the Canadian Out of Employment Panel (COEP) administered to persons with job separations in specified time periods in 1993 and 1995, termed the COEP93 and the COEP95. In all, there were two cohorts in each wave, and these samples had similar intake periods in 1993 and 1995. For present purposes, we focus on the second cohort of COEP93 and the second cohort of COEP95, two samples that bracket the C-17 changes and that have almost identical seasonal patterns. Both unconditional quasi-experimental effects and conditional analyses are presented, the latter using methods of econometric duration analysis that seeks to explain the determinants of the length of an unemployment spell or a period of UI recipiency.

Evidence

The evidence from this analysis shows, first, that the C-17 changes were large enough to reasonably expect a behavioural effect in these data. Measured at the date of job separation from administrative records, the percentage of separations that involved an individual eligibile for UI fell from 67% in COEP93 to 57% in COEP95. Moreover, among those eligible, the average length of UI entitlement fell from almost 45 weeks in COEP93 to 36 weeks in COEP95.

Second, these changes, coupled with the various replacement rate changes, led to a large effect on unemployment durations. Unconditionally, the rate at which individuals found jobs in COEP93 was always slower than the analogous rate for the COEP95 sample. Median unemployment durations, for example, were 34 weeks in COEP93 and 15 weeks in COEP95. Conditionally, in a large variety of duration models, and with a wide-ranging investigation of alternative determinants of these durations, the effect attributable to C-17 is always sizeable and significant. When local unemployment rates are added to control for changing macroeconomic conditions, and when other demographic determinants of duration are added, the effect is somewhat smaller, with the conditional median durations being 39 and 36 weeks, respectively, but the quasi-experimental C-17 effect remains present.

Third, the effects of these changes were found to be robust across a range of alternative models, including analysis of the joint determinants of UI recipiency and unemployment duration, and including an investigation of UI exhaustion effects around the period that an individual's UI entitlement was about to expire. Although there were some variation in estimated effects by province, these patterns were never strong, and the only robust demographic variable was sex, with men uniformly tending to have shorter unemployment durations.

Overall, the main conclusion remains that the C-17 legislative changes had a significant effect on unemployment durations and on the length of periods of UI receipt. Given the modest nature of the replacement rate changes, and the failure to find large effects from the replacement rate in much past Canadian research, it is natural to think that the significant entitlement and eligibility changes in C-17 had a decisive role in producing these results. Since one element (of many) in the more far-reaching EI reforms has been the lowering of the maximum entitlement period from 50 to 45 weeks, the present study suggests that one would expect a significant effect from this change.

1. Introduction

The general goal of the research detailed in this report is to study the role of unemployment insurance (UI) in affecting durations of unemployment or of UI benefit recipiency. Reasons for such interest naturally include effects of UI and changes in UI regulations and legislation on the aggregate level of unemployment, as well as on its incidence for various demographic groups and in various regions. From a microeconomic perspective, one key issue is the extent of moral hazard as a by-product of the provision of the insurance function of UI, with the potential for changing unemployment durations in response to changes in UI program parameters. Such tradeoff between potential distortions of search behaviour and the pure insurance role of UI is at the heart of analysis of the optimal level of UI.[1] At the outset, however, it should be stressed that this type of study is an analysis of the joint behaviour of workers and firms in response to policy parameters,[2] since equilibrium outcomes naturally involve both sides of the labour market and we do not believe it is feasible separately to identify the behavioural parameters of workers and firms.

The particular focus of this work is to address one set of UI legislative changes — the C-17 reforms — and to study its effects on unemployment and UI recipiency durations. To this end, the study will employ two new datasets that merge survey and administrative data and were designed specifically to capitalize on this legislative change as a way of understanding the effects of UI. The approach thus addresses directly the often-voiced concern that there is little exogenous variation in UI program parameters, with both benefit rates and entitlements being driven primarily by past labour market experiences. Since such experiences would likely also have an effect on future employment prospects, both directly (e.g., due to the benefits conferred by past job experience) and as indirect indicators of unobserved qualities that an employer might value, and since these effects would operate independently of UI provisions, it is thought difficult to separate out the direct effects of UI program parameters from these various effects of past labour market behaviour (see, e.g., Welch 1977 and Meyer 1992).

In implementing this alternative approach, which has come to be known as a quasi-experimental way of program evaluation, it should however be noted that the design may not truly replicate a experiment with random assignment to treatments. Accordingly, it will be important in the analysis to investigate whether there is a role for other explanatory variables, as well as investigating the pure

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1 See the early work by Baily (1978), for example, and more recently Hansen and Imrohoroglu (1992) and Hopenhayn and Nicolini (1997). Gruber (1997, pp.201-3) begins empirical application of the Baily framework.

2 Albrecht & Axell (1984) is one example of an equilibrium analysis that takes account of worker and firm behaviour in a general equilibrium search context.

quasi-experimental effect. Nonetheless, to the extent that there is variation in the datasets driven by exogenous legislative change, it may be hoped that the results are more robust and less driven by particularities of the estimation procedure than many extant results in the Canadian literature on UI (see, e.g., Corak 1994 for a survey).[3]

This report is structured as follows. In Section 2, the relevant legislative changes are summarized and the surveys that will be employed are described. Following this, the report turns to the presentation of results. Section 3 addresses the nature of unemployment spells in these data, both before and after the C-17 provisions took effect, and estimates a variety of alternative specifications designed to uncover the overall effect of these provisions, controlling for other potential differences between the two years from which the data are drawn. Section 4 reports analogous results for durations of UI benefit recipiency alone, with similar discussion of both the immediate quasi-experimental effect and the consequences of controlling for other observable determinants of duration. Section 5 puts these two elements together, reporting estimates from a number of specifications that jointly model UI benefit duration and unemployment spell length, with particular focus on UI benefit exhaustion effects. It also contains details of some alternative modelling strategies that serve as further robustness checks on the earlier results concerning unemployment spells. Section 6 summarizes the findings and draws conclusions.

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[3] Other Canadian work that attempts to exploit UI regulatory and legislative changes in a quasi-experimental way includes Green & Riddell (1997) and Jones (1994).

2. C-17 Legislative Changes and the COEP Surveys

The data used in this work is drawn from two special surveys of individuals with job separations in particular time periods. These surveys, based on a 10 percent random sample of individuals with Records of Employment (ROE), which are filed whenever a job separation occurs, are matched to administrative UI data and related records. Overall, these data are known as the Canadian Out of Employment Panels (COEPs). To understand their structure, it is necessary to review the history of UI in Canada in the 1990s, since these surveys were implemented chiefly as a means to evaluate these program changes.

... these data are known as the Canadian Out of Employment Panels (COEPs) ... these surveys were implemented chiefly as a means to evaluate program changes.

There were two major legislative changes in Canadian UI in the 1990s, prior to the recent move to Employment Insurance (EI). These were Bill C-113 in 1993 and Bill C-17 in 1994. The former changes reduced the UI replacement rate from 60 percent to 57 percent of the insurable maximum and significantly tightened the disqualification provisions for unjustified separations (chiefly voluntary quits, but also covering those dismissed for cause). Taking effect in April 1993, these changes were bracketed by the two intake six week windows for the COEP93 survey which therefore had a natural "Before" and "After" structure. The six weeks exactly around the change itself were excluded from the COEP93 sample, however, to obviate concerns about strategic filing.[4] Several studies have previously addressed the effects of Bill C-113 using the COEP93 dataset (see, e.g., Crémieux, Fortin, Storer and Van Audenrode 1995; Crossley and Kuhn 1995; Browning, Jones and Kuhn 1995; Browning 1995; and Wong 1995.)

... There were two major legislative changes in Canadian UI in the 1990s, Bill C-113 in 1993 and Bill C-17 in 1994.

The changes in Bill C-17 were of potentially greater importance. The main replacement rate was further reduced from 57 percent to 55 percent of insurance earnings, although a provision was added that introduced a dependency rate set at 60 percent for low income (less than $390/week) UI beneficiaries with dependents. In addition, entrance requirements to qualify for UI were raised from 10 weeks to 12 weeks in the highest unemployment regions, and there was a change in the formula by which weeks of work earned weeks of UI coverage. There were also some changes in UI premium rates and some additional amendments of the disqualification provisions from Bill C-113. These provisions took effect in two phases, with the qualifying

[4] The basic idea is that someone who might anticipate a lengthy period of unemployment could have influenced the exact date of a separation in order to initiate a claim before the date of the change (since the change acted to reduce benefits), whereas this type of behaviour might not have been worth the bother for persons expecting shorter spells. Jones (1994) contains some analysis suggesting that the six week window around the change was likely more than adequate to avoid results from the COEP93 being contaminated by this problem.

requirements being effective from April 1994, while the benefit changes were not implemented until three months later.

It was not possible to conduct a COEP survey in 1994, so there is no exact match of the survey and the UI changes to the COEP93 structure. Instead, a survey was implemented in 1995, using almost identical weekly intake windows as had been used in 1993. The idea was that the "After" group from COEP93 could constitute a group with treatment prior to Bill C-17 (i.e., they would represent the "Before" group for C-17) and the second intake sample from COEP95 would constitute the "After" group for C-17. Since the seasonal timing would be identical for the second cohorts from COEP93 and COEP95, it was thought that seasonal effects in the labour market would not be problematic for the C-17 evaluation, a concern that had been expressed about the earlier round of work on C-113 using the COEP93 survey.

At the outset, three issues should be noted about the joint use of the COEP93 and COEP95 surveys. First, they were collected by different survey houses (Ekos and Statistics Canada, respectively) and there may be some concern about consistency of interviewing patterns, call-backs, response rates and the like. Overall, there is probably little that can be done about this, although a set of sampling weights for COEP93 has been developed that probably improves on the original weights supplied by Ekos (Cater 1996). In what follows, I have investigated use of such weights and those supplied by Statistics Canada, although in both the unconditional and the conditional results, I have found no significant differences from use of weighted or unweighted data.

Second, the survey instruments themselves differed in COEP93 and COEP95. Although there was much effort to secure a high degree of consistency, there remain differences in the data collected and the way in which the data was coded between the two surveys. For present purposes, these changes are fairly minor and typically involve downgrading the information in one survey to the level (coarseness) collected in the other; educational categories are one example of this type of change.

Third, the interviewing structure was quite different between the two surveys. In COEP93, respondents were interviewed (by telephone, using CATI) three times at roughly 26, 39 and 56 weeks, whereas in COEP95, respondents were interviewed (also by telephone, but using a more tightly structuredimplementation of CATI) only twice, at roughly 8 and 12 months.For issues where behaviour at a point in time is of paramount importance, these timing interview in each case is a little over a year from the separation data recorded on the ROE.[5]

[5] In some earlier work with these data, before the final interview data were available, the procedure followed was to treat the data from the survey with the longer time from ROE date to interview date as censored at the shorter duration to interview data from the other COEP, as discussed in the initial Methodology Report for this contract. This is rendered unnecessary by the availability of the final interview data.

Overall, it is important to stress that, although these various differences between COEP93 and COEP95 are present, nonetheless the combined datasets unite survey and administrative data and yield a resource for the study of the effects of UI provisions, and changes in those provisions, that is unrivalled in Canadian data, and perhaps more widely.

The results to be presented below concern the second cohort of each of the two COEPs, thereby controlling for seasonal effects and concentrating attention on the quasi-experimental evaluation of the C-17 changes.[6] Also, attention is directed to the study of durations following separations categorized (by the ROE reason code) as due to quit, dismissal, short work and other.[7] As orders of magnitude, quits are around 15-20 percent of total separations, dismissed are less than 5 percent, and short work is something over 50 percent of the total. The "other" group is about 20 percent of total separations and is usually thought of as being similar to the short work category.[8] Based on much preliminary investigation, and consistent with previous work using the COEP93, I usually investigate either the full sample for these four codes or two sub-samples called VQ/Dis, which is comprised of the first two reason codes mentioned above (voluntary quits and dismissed), and SW/Oth, which is comprised of the other two codes (Short Work and Other).

At the outset, it is worth noting that, based on these data, the percentage eligible for UI (measured at the ROE date of the separation) falls from 67.0 percent in COEP93 to 57.2 percent in COEP95, reflecting the more stringent entitlement rules after Bill C-17. Also, among those eligible, mean weeks of entitlement fall from 44.7 in COEP93 to 34.7 for COEP95, which again seems a large change. Although the replacement rate and other changes are fairly small, these entitlement changes are large enough to suggest that we should expect some sign of their effects in the results.

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6 In future work, I shall investigate the C-113 changes using the COEP95 as a control to perform a difference-in-differences analysis (cf. Card 1992, Gruber 1994), thereby using both cohorts from both COEPs. Essentially, this method uses the COEP95 cohorts as seasonal controls to study the 1993 changes, net of any seasonality in the composition of the two cohorts' inflow. The C-17 changes cannot be examined in this way, however, given the structure and timing of the data available.

7 That is, other reason codes from the ROE (such as labour dispute, leave of absence and pregnancy) are not included in the present analysis.

8 There are differences between the two COEPs in these figures, as well as differences between these ROE figures and self-reported reasons supplied as survey responses, but these magnitudes are a good guide.

3. Results: Unemployment Spells

The first indicator to be addressed is the duration of unemployment spells following separation. My general approach is to begin with simple measures of these durations, to examine the basic quasi-experimental evidence, and gradually to build more complicated and more encompassing sets of potential control variables, looking for results that are apparently robust to a variety of alternative specifications. Since no one specification is likely exactly true, this type of robustness to alternative plausible modelling strategies is an important component of the evaluation.

My general approach is to begin with simple measures of these durations, and gradually to build more complicated and more encompassing sets of potential control variables ...

The statistical framework to be employed studies unemployment spells using duration (or transition) analysis (see, e.g., Cox and Oakes 1984, Kalbfleisch and Prentice 1980, and Lancaster 1990). These methods estimate the determinants of spell lengths with allowance for censoring (when spells have not been completed at the last survey date, so that the ending date remains unknown) and permit inclusion of explanatory variables that may change during the course of a spell (such as a variable indicating UI benefit exhaustion). They also permit estimation of changes in the conditional probability of leaving unemployment as a spell progresses, perhaps due to true duration dependence as, say, discouraged searchers become less employable at longer durations. However, since there is some disagreement in the literature about the merits of various specifications for duration analysis, and since there is evidence that results from one model may on occasion be fragile and not hold up in other cases, I regard it as very important to study a range of such models, looking for results that are not driven exclusively by some aspect of the duration specification in which we might have a low degree of confidence.

The usual object of study in such work is the hazard function, that is, the probability of ending an unemployment spell at a particular time, conditional on the spell being on-going up to that time. Specification of the hazard equivalently implies a specification for the overall distribution of completed spells, and equivalently implies a specification for the shape of the survivor function, the proportion of spells still on-going as a function of the duration (see, e.g., Cox & Oakes 1984).

Empirical survivor functions

I begin by graphing the Kaplan-Meier survivor function for the post-ROE duration to first job, here termed the unemployment duration, overall for the two COEPs and then for the two sub-groups categorized by reason for separation. This Kaplan-Meier product limit estimator is the nonparametric

maximum likelihood estimator of the survivor function (Kalbfleisch & Prentice 1980, p.12). As can be seen from Figure 1, there is a clear difference between the two empirical survivor functions for the two COEPs, with that for COEP95 lying uniformly below that for COEP93; this difference is especially marked for the first 20 or so weeks of an unemployment spell. Broken up by reason for separation in Figures 2 and 3, it can be seen that this difference is larger for the VQ/Dis sample in Figure 2 than for the SW/Oth sample in Figure 3, but the effect of being in the COEP95 group is always to produce a lower survivor function at each duration out to 40 weeks and beyond. When UI program parameters were more stringent in 1995, it appears from these graphs that the proportion of spells lasting beyond any given duration was smaller than at the corresponding duration in 1993, before the Bill C-17 changes. And the impression from Figures 1-3 is that this putative Bill C-17 effect was quite large.

I next turn to analysis of whether these graphical indications are borne out in the statistical analysis. To do this, a series of duration models are estimated, with investigation of alternative specifications, alternative distributional assumptions, and alternative sets of explanatory variables as supplement to the Before/Afterquasi-experimental effect. I begin with the Cox partial likelihood model, and then investigate alternative specifications.

Figure 1
Empirical Survivor Functions for the COEP 93 and COEP 95
Full Sample

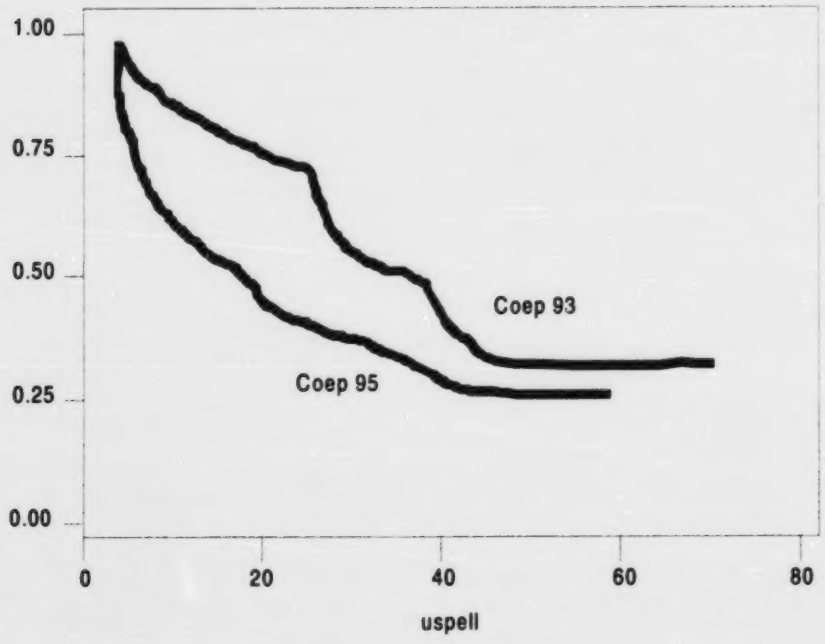


Figure 2
One Empirical Survivor Functions for the COEP 93 and COEP 95 VQ/Dis Sample

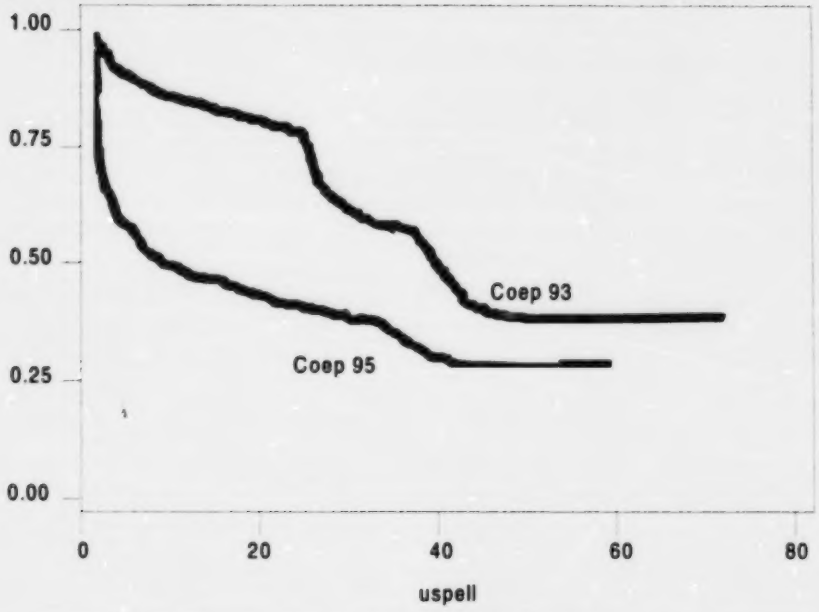
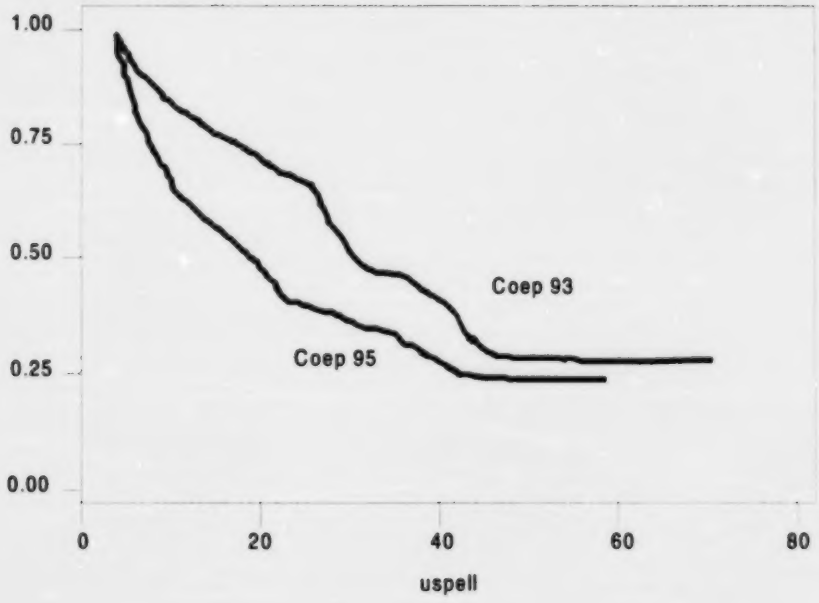


Figure 3
One Empirical Survivor Functions for the COEP 93 and COEP 95 SW/Oth Sample



Cox partial likelihood models

... a baseline hazard gives the (conditional) probability of a spell ending at time t when all explanatory variables are set to zero ...

In the first set of models studied, following Cox (1972), the hazard out of unemployment is assumed to factor into two separate components: a baseline hazard b(t, 0) that gives the (conditional) probability of a spell ending at time t when all explanatory variables are set to zero; and a set of explanatory variables that are assumed to act proportionally on this baseline. This specification is thus one form of a proportional hazards model. In this partial likelihood approach, the baseline may assume any shape and simply factors out of the likelihood equation; it is not therefore estimated. Overall, the hazard is then

$$h\ (t, X(t)) = b\,(t, 0)\, e^{X(t)/b}$$

where X(t) is a vector of explanatory variables (elements of which might vary with time) and ß is a vector of coefficients.

Tables 1 and 2 report the results from estimating Cox models of this form on the full COEP93/COEP95 sample using a variety of alternative sets of control variables.[9] In Table 1, Model 1 studies the effect of including only the dummy variable for being in COEP95, termed coep; it takes the value 1 in the period after Bill C-17 (i.e., for an individual in COEP95) and 0 in the period before (for an individual in COEP93). The significantly positive coefficient of 0.442 on the coep variable in this model means that the hazard out of unemployment is significantly higher for the COEP95 group than for the COEP93 group, which is consistent with the impression gained from graph of the empirical hazards. Since the effect of any explanatory variables X operates on the baseline hazard as $\exp(X'ß)$, the point estimate of 0.442 translates into a baseline hazard that is moved up proportionally by a factor of exp(0.442)=1.56, compared to the case when coep=0 (i.e., for members of the COEP93 group). With no other controls, this is the quasi-experimental effect in the context of this Cox specification.

Policy interpretation of this result is most straightforwardly seen by consideration of the median unemployment duration, measured in weeks, for the COEP93 and the COEP95 groups. In these data, this procedure avoids having to account for censored spells that are still in progress beyond the final interview date. Using the weighted data, the median duration in the COEP93 sample is 34 weeks, whereas the analogous figure for COEP95 is 15 weeks.

In the other models reported in Table 1, other controls are added sequentially. Model 2 adds the local unemployment rate at the time of the ROE separation, an indicator of overall economic conditions (as well as a factor that affects the UI qualification requirements), but its effect is small and the coep effect is essentially unchanged. The median durations conditional on this local

[9]Table A1 in the Appendix gives definitions of variables.

unemployment rate measure move to 35 and 16 weeks for COEP93 and COEP95, respectively. Model 3 adds a standard set of demographic and other controls: sex, marital status, age (entered as a quadratic), visible minority status, full-time status on the ROE reference job, a set of seven education dummy variables, and provincial dummy variables. Their effects are individually quite modest, with only sex, one education category and a few regional variables having significant effects, but together they act to lower the estimated coefficient on the coep variable by about half, to 0.203. This translates into a proportional shift upward of the hazard of 1.23, relative to the coep=0 case. In terms of median unemployment durations, the effect is also large, with the COEP93 figure, conditional on these controls, now being 39 weeks while the COEP95 figure, similarly conditioned, moves up to 33 weeks. Although the effect is smaller when these demographics are entered, however, the coep variable remains strongly significantly different from zero. Finally, the further addition of the local unemployment rate (in Model 4) makes only a slight difference to the estimates from Model 3, and it leaves the median COEP93 duration at 39 weeks while further raising that for COEP95 to 36 weeks.

Further Cox specifications are reported, still for the full sample, in Table 2. One issue that may affect job search behaviour and the determinants of unemployment durations is whether or not the individual expected return to the former ROE job. A sizeable minority of the COEP samples do report such an expectation. Accordingly, Models 1 and 2 in Table 2 report the results of estimating the full model (with all the explanatory variables introduced to date) on the subsamples that, respectively, did not and did expect return to this former job. Those not expecting return have a smaller coep effect (model 1) at around 0.108 while those expecting return have a larger coep effect of 0.373, though both coefficients are significant at the 5 percent level. Interestingly, visible minority status lowers the hazard for those expecting return, but not significantly for those who do not, while having had a full-time former job raises the hazard for those not expecting recall.

The remaining models reported in Table 2 study the effects of UI eligibility and receipt in various ways. Model 3 augments the explanatory variables with a dummy for UI eligibility (at the ROE date) and a measure of the UI entitlement at that time. Neither plays a significant role in this specification, and the key coefficient on the coep variable remains at around 0.2, as in Models 3 and 4 of Table 1. The next column on Table 2, Model 4, restricts attention to those who were eligible for UI. Perhaps surprisingly, there is very little change in the estimates, either for the coep variable or for the demographic and other controls. Finally, Model 5 of this Table augments the standard set of controls with a simple measure of past UI receipt: this is an indicator of UI use in three of the preceding five years. While individually significant and positive, suggesting that such past use is associated with a higher hazard, given the other controls,

the most notable effect is that the coefficient on the coep variable remains significantly positive at the 1 percent level with a point estimate of 0.200.

Tables 3 and 4 repeat this analysis using only the VQ/Dis subsample, while Tables 5 and 6 do likewise for the SW/Oth subsample. For brevity and focus, I will concentrate primarily on the effects of these separation groupings for the coep variable effect, although it is perhaps worth remark that the other estimated coefficients are relatively similar across the two groups.[10] The coep effect is larger for the VQ/D is group in the models with few other controls (Table 3, Models 1 and 2) than for the SW/Oth group (Table 5, Models 1 and 2), but the reverse is true, weakly, in Models 3 and 4 of these respective Tables. Being governed by the C-17 legislation apparently had a greater effect on the VQ/D is group in terms of shortening their unemployment durations, consistent with the dramatic drop in their empirical survivor function seen in Figure 2 above. Conditional on the different demographic and regional composition of the two groups, however, the results from Models 3 and 4 of Tables 3 and 5 show little final difference in the estimated coep effect, both being close to the overall figure of around 0.2 (1.2 in terms of the proportional hazard ratio).

Comparison of the results reported in Tables 4 and 6 also yields surprisingly few differences between the two groups. The coep effect appears larger for those not expecting return to the former job in both cases (Model 2 vs. Model 1 in the two Tables), though insignificantly so for the small VQ/Dis sample, but overall the impression is one of considerable stability in the coefficient. For the VQ/Dis group, some of whom would be disqualified under the C-113 type provisions, the effect of UI eligibility is to significantly lower the hazard (Model 4 of Table 4), whereas the same dummy variable is insignificantly different from zero for the SW/Oth group.

Finally, recalling the concerns expressed at the outset regarding the comparability of the two surveys, and particularly the weighting procedures that have been applied to the two samples, I have also estimated all of the models in Tables 1-6 again using unweighted data from the combined COEP93 and COEP95 dataset. These results are given in the Appendix Tables A2-A7. While some differences are inevitable, a fair summary is that the decision about weighting does not affect the main results, particularly with regard to the estimated effect of the coep variable.

[10] Regional effects are more pronounced in the SW/0th sample than for the VQ/Dis group; compare, e.g., the estimated provincial coefficients in Model 4 in Tables 5 and 3, respectively, where central and western provinces have a shorter predicted durations as a consequence of a higher hazard.

Exponential regression and Weibull duration models

One leading alternative to the Cox partial likelihood model is to estimate a parametric structure for the baseline hazard jointly with the estimation of the effects of the explanatory variables. Although there may be some concern about the interpretation of the estimated coefficients in the event that the baseline is incorrectly specified, such estimation may serve as a check on the preceding set of results. To this end, I examine two models: the exponential regression model, where the hazard is

$$h(t,X(t)) = e^{X(t)/b}$$

so that the baseline, b(t,0) from above, is unity and the hazard is assumed to be constant with duration; and the generalization to the Weibull model where the hazard is

$$h(t, X(t)) = qt^{q-1} e^{X(t)/b}$$

which nests the exponential model as the special case of q=1. Note that the Weibull allows monotonic duration dependence with q<1 implying a decreasing hazard and conversely.[11]

... the clear message from this analysis of unemployment spells is that the effect of C-17 was significant and acted to reduce unemployment duration, even conditional on other explanatory variables ...

For completeness, the full set of model specifications from the Cox model above has been estimated for both the exponential model and the Weibull generalization, using the full, the VQ/Dis and the SW/Oth samples. These are respectively reported in Tables 7-12 and 13-18 below.[12] Obviously, one cannot reasonably discuss all such results, but it is worth commenting on the pattern of the findings. First and foremost, the coep effect is almost always positive and significant. In the leading case (see Table 7, Model 4 and Table 13, Model 4), it has a point estimate in these models of around 0.21, very similar to that from the Cox specification. Second, the Weibull evidence leads one to reject the q=1 assumption that would underlie the exponential model, since we estimate ln q < 0 (and significantly so) for all the Weibull specifications. The estimated hazard is thus declining in these models. Third, disaggregation by reason for separation again plays a comparatively minor role in these models, with the VQ/Dis and the SW/Oth samples yielding fairly similar results. Finally, the role of demographics should again be detailed, e.g., in Table 7 model 4. In that example case, being male raises the hazard significantly (with an effect equal in magnitude to the effect of being in COEP95 rather than COEP93), thereby

[11] The estimation is actually fitted as ln q for this Weibull shape parameter, so that a declining hazard would correspond to ln q < 0.

[12] Unreported, but available on request, are the analogous results from applying these two models to the un weighted COEP93/COEP95 data. As with the Cox partial likelihoods reported in the Appendix, nothing of import changes if we use the unweighted data.

tending to reduce unemployment durations, and some positive effects on the hazard are also found for individuals in PEI, Quebec and Alberta. These effects are relatively robust across the other Tables (8-12) for this model and across the Weibull model results (Tables 13-18), in addition to which there are some signs of positive effects of education on the hazard, at least at the level of college education or higher. However, these latter findings are rather more patchy in these data. Overall, though, the clear message from this analysis of unemployment spells is that the effect of C-17 was significant and acted to reduce unemployment duration, even conditional on other explanatory variables such as sex, region, and education, all of which may operate to alter the length of an unemployment spell.

Table 1
Cox Partial Likelihood Determinants of Unemployment Spells
Full Sample

Model :	1	2	3	4
# obs :	11857	11855	10251	10250
Depvar:	uspell	uspell	uspell	uspell
coep	0.442**	0.451**	0.203*	0.206**
	(0.029)	(0.030)	(0.031)	(0.032)
localu		(0.007		0.001
		(0.004)		(0.005)
male			0.211**	0.212**
			(0.031)	0.031)
r_ft			0.044	0.044
			(0.042)	(0.042)
marr			0.001	0.001
			(0.033)	(0.033)
age			0.003	0.003
			(0.010)	(0.010)
age2			0.000	0.000
			0.000)	(0.000)
vismin			-0.036	-0.036
			(0.038)	(0.038)
leelem			0.055	0.055
			(0.071)	(0.071)
s_hs			0.011	0.011
			(0.041)	(0.041)
trade			0.053	0.053
			(0.069)	(0.069)
scoll			0.121*	0.121*
			(0.060)	(0.060)
coll			0.088	0.089
			(0.056)	(0.056)
s_univ			0.078	0.078
			(0.072)	(0.072)
gugrad			0.008	0.008
			(0.051)	(0.051)
nfld			-0.144	-0.152
			(0.118)	(0.121)
pei			0.555*	0.547*
			(0.264)	(0.265)
ns			-0.002	-0.005
			(0.076)	(0.078)
nb			0.168	0.165
			(0.089)	(0.090)
que			0.127**	0.124**
			(0.040)	(0.042)
man			0.104	0.105
			(0.095)	(0.095)
sask			0.214*	0.215*
			(0.090)	(0.090)
alta			0.191**	0.191**
			(0.055)	(0.055)
bc			0.088	0.088
			(0.048)	(0.048)
terr			0.463	0.444
			(0.270)	(0.279)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ =**. Based on weighted sample from COEP93 and COEP95.

Table 2
Cox Partial Likelihood Determinants of Unemployment Spells
Various Samples (see notes)

Model :	1	2	3	4	5
# obs :	3451	3776	10217	6479	8857
Depvar:	uspell	uspell	uspell	uspell	uspell
coep	0.108*	0.373**	0.208**	0.222**	0.200**
	(0.051)	(0.049)	(0.033)	(0.043)	0.034)
localu	0.002	0.001	0.003	0.007	0.001
	(0.008)	(0.007)	(0.005)	(0.007)	(0.006)
male	0.198**	0.300**	0.195**	0.177**	0.241**
	(0.050)	(0.047)	(0.031)	(0.041)	(0.034)
r_ft	0.183**	0.043	0.055	0.024	0.049
	(0.070)	(0.065)	(0.043)	(0.057)	(0.046)
marr	0.108*	0.023	0.002	0.053	0.007
	(0.054)	(0.050)	(0.033)	(0.044)	(0.035)
age	0.009	0.028	0.004	0.004	0.003
	(0.017)	(0.017)	(0.010)	(0.014)	(0.013)
age2	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
vismin	-0.046	-0.160**	-0.035	-0.023	-0.040
	(0.065)	(0.059)	(0.038)	(0.050)	(0.041)
leelem	-0.040	0.096	0.044	0.136	0.017
	(0.142)	(0.10)	(0.073)	(0.087)	(0.076)
s_hs	-0.050	0.068	0.005	-0.010	-0.049
	(0.067)	(0.063)	(0.042)	(0.060)	(0.045)
trade	-0.132	0.128	0.036	0.108	-0.021
	(0.120)	(0.116)	(0.070)	(0.092)	(0.073)
scoll	0.064	0.223*	0.127*	0.086	0.149*
	(0.090)	(0.106)	(0.061)	(0.075)	(0.064)
coll	0.030	0.147	0.105	0.067	0.060
	(0.084)	(0.080)	(0.056)	(0.073)	(0.060)
s_univ	0.194	-0.069	0.094	0.011	0.061
	(0.104)	(0.119)	(0.072)	(0.090)	(0.080)
gugrad	-0.009	-0.048	0.028	0.074	0.028
	(0.076)	(0.078)	(0.051)	(0.062)	(0.054)
nfld	-0.070	-0.272	-0.167	0.006	-0.221
	(0.160)	(0.194)	(0.123)	(0.127)	(0.131)
pei	0.904	0.307	0.540*	0.231*	0.488
	(0.509)	(0.240)	(0.263)	(0.233)	(0.276)
ns	-0.018	-0.085	0.000	-0.161	-0.054
	(0.147)	(0.115)	(0.077)	(0.109)	(0.085)
nb	0.134	0.124	0.166	0.088	0.140
	(0.135)	(0.126)	(0.089)	(0.133)	(0.092)
que	0.217**	-0.030	0.128**	0.062	0.101*
	(0.067)	(0.062)	(0.042)	(0.055)	(0.045)
man	0.171	0.024	0.085	0.266*	0.109
	(0.157)	(0.142)	(0.097)	(0.123)	(0.099)
sask	0.280	0.258	0.215*	0.152	0.252**
	(0.144)	(0.141)	(0.091)	(0.116)	(0.093)
alta	0.386**	0.071	0.184**	-0.002	0.154*
	(0.076)	(0.099)	(0.055)	(0.080)	(0.061)
bc	0.044	0.020	0.088	0.074	0.115*
	(0.077)	(0.078)	(0.049)	(0.062)	(0.052)
terr	0.457	-0.379	0.413	0.001	0.264
	(0.351)	(0.511)	(0.264)	(0.528)	(0.339)
elig			-0.087		
			(0.050)		
elgwks			-0.002		
			(0.001)		
ui3of5					0.163**
					(0.033)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; model 3 studies the effects of eligibility for the full sample; model 4 is estimated only for those eligible for UI; and model 5 studies the effect of past claim history.

Table 3
Cox Partial Likelihood Determinants of Unemployment Spells
VQ/Dis Sample

Model :	**1**	**2**	**3**	**4**
# obs :	**2567**	**2567**	**1947**	**1947**
Depvar:	**uspell**	**uspell**	**uspell**	**uspell**
coep	0.593**	0.613**	0.191**	0.209**
	(0.060)	(0.063)	(0.066)	(0.071)
localu		0.012		0.012
		(0.010)		(0.013)
male			0.223**	0.222**
			(0.069)	(0.069)
r_ft			0.140	0.140
			(0.080)	(0.080)
marr			0.013	0.008
			(0.080)	(0.080)
age			-0.002	-0.002
			(0.025)	(0.025)
age2			0.000	0.000
			(0.000)	(0.000)
vismin			-0.041	-0.041
			(0.081)	(0.081)
leelem			-0.048	-0.059
			(0.264)	(0.265)
s_hs			-0.063	-0.068
			(0.089)	(0.089)
trade			-0.098	-0.10
			(0.176)	(0.176)
scoll			0.027	0.024
			(0.117)	(0.118)
coll			0.022	0.030
			(0.117)	(0.114)
s_univ			0.096	0.098
			(0.124)	(0.124)
gugrad			-0.004	0.001
			(0.113)	(0.113)
nfld			0.191	0.183
			(0.209)	(0.20)
pei			0.671**	0.628*
			(0.245)	(0.245)
ns			0.339*	0.305
			(0.162)	(0.166)
nb			0.395*	0.384
			(0.196)	(0.20)
man			0.045	0.051
			(0.187)	(0.188)
sask			0.040	0.044
			(0.182)	(0.182)
alta			0.206	0.209
			(0.108)	(0.109)
bc			0.052	0.048
			(0.101)	(0.10)
terr			0.286	0.135
			(0.753)	(0.796)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from the COEP93 and COEP95.

Table 4
Cox Partial Likelihood Determinants of Unemployment Spells
DV/CON Sample and Subsample

Model :	1	2	3	4	5
# obs :	922	213	1934	1197	1561
Depvar:	uspell	uspell	uspell	uspell	uspell
coep	0.245*	0.303	0.237**	0.347**	0.230**
	(0.110)	(0.215)	(0.072)	(0.098)	(0.079)
localu	0.008	-0.033	0.006	0.044**	0.011
	(0.017)	(0.040)	(0.013)	(0.017)	(0.015)
male	0.189*	0.308	0.223**	0.217*	0.302**
	(0.089)	(0.215)	(0.068)	(0.092)	(0.078)
r_ft	0.365**	0.307	0.135	0.247*	0.150
	(0.105)	(0.293)	(0.080)	(0.113)	(0.091)
marr	0.146	-0.132	0.008	0.131	0.065
	(0.098)	(0.240)	(0.080)	(0.105)	(0.087)
age	0.005	0.123	-0.003	-0.001	0.002
	(0.032)	(0.082)	(0.025)	(0.036)	(0.043)
age2	0.000	-0.001	0.000	0.000	0.000
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
vismin	-0.090	-0.561*	-0.039	0.063	-0.152
	(0.115)	(0.253)	(0.081)	(0.107)	(0.095)
leelem	0.025	-0.593	-0.052	0.256	0.001
	(0.237)	(0.823)	(0.265)	(0.423)	(0.280)
s_hs	-0.043	0.120	-0.054	-0.226	-0.131
	(0.119)	(0.238)	(0.090)	(0.138)	(0.106)
trade	-0.207	-0.056	-0.091	-0.195	-0.195
	(0.280)	(0.529)	(0.175)	(0.251)	(0.199)
scoll	0.049	-0.280	0.030	-0.012	0.059
	(0.137)	(0.419)	(0.117)	(0.154)	(0.130)
coll	0.048	-0.083	0.042	-0.115	-0.046
	(0.129)	(0.358)	(0.114)	(0.153)	(0.127)
s_univ	0.008	0.483	0.102	-0.092	0.071
	(0.179)	(0.403)	(0.125)	(0.148)	(0.141)
gugrad	0.003	-0.434	0.004	-0.012	-0. 056
	(0.143)	(0.338)	(0.113)	(0.140)	(0.129)
nfld	-0.240	0.856*	0.198	0.032	0.190
	(0.331)	(0.360)	(0.20)	(0.329)	(0.208)
ns	0.595*	-0.306	0.320*	0.132	0.288
	(0.232)	(0.599)	(0.164)	(0.215)	(0.185)
nb	0.254	-0.291	0.357	0.403	0.386*
	(0.263)	(0.834)	(0.201)	(0.268)	(0.196)
que	0.267*	0.031	0.188*	0.017	0.174
	(0.112)	(0.298)	(0.093)	(0.130)	(0.107)
man	0.116	0.245	0.049	-0.092	0.060
	(0.215)	(0.358)	(0.187)	(0.319)	(0.204)
sask	0.243	-0.536	0.039	-0.078	0.190
	(0.206)	(0.684)	(0.181)	(0.254)	(0.201)
alta	0.321*	-0.063	0.196	-0.001	0.141
	(0.133)	(0.299)	(0.109)	(0.156)	(0.127)
bc	-0.172	-0.30	0.044	-0.028	0.052
	(0.144)	(0.344)	(0.101)	(0.122)	(0.117)
terr	-0.392	-0.379	0.149	-1.118	0.016
	(0.946)	(0.511)	(0.773)	(0.969)	(0.984)
pei	0.904	0.759	0.657**	0.740**	0.579*
	(0.509)	(0.646)	(0.252)	(0.215)	(0.253)
elig			-0.309*		
			(0.123)		
elgwks			0.007*		
			(0.003)		
ui3of5					0.016
					(0.085)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; model 3 studies the effects of eligibility for the full sample; model 4 is estimated only for those eligible for UI; and model 5 studies the effect of past claim history.

Table 5
Cox Partial Likelihood Determinants of Unemployment Spells
SW/Oth Sample

Model :	1	2	3	4
# obs :	8474	8472	7810	7809
Depvar:	uspell	uspell	uspell	uspell
coep	0.359**	0.363**	0.222**	0.224**
	(0.033)	(0.034)	(0.035)	(0.036)
localu		0.004		0.001
		(0.005)		(0.005)
male			0.211**	0.211**
			(0.035)	(0.035)
r_ft			0.000	0.000
			(0.051)	(0.050)
marr			0.016	0.015
			(0.036)	(0.036)
age			0.010	0.010
			(0.012)	(0.012)
age2			0.000	0.000
			(0.000)	(0.000)
vismin			-0.031	-0.032
			(0.044)	(0.044)
loelem			0.073	0.074
			(0.076)	(0.076)
s_hs			0.029	0.029
			(0.047)	(0.047)
trade			0.076	0.077
			(0.076)	(0.076)
scoll			0.165*	0.166*
			(0.070)	(0.070)
coll			0.105	0.106
			(0.062)	(0.062)
s_univ			0.036	0.036
			(0.091)	(0.091)
gugrad			-0.016	-0.016
			(0.058)	(0.058)
nfld			-0.177	-0.181
			(0.130)	(0.135)
pei			0.519	0.515
			(0.319)	(0.320)
ns			-0.062	-0.063
			(0.089)	(0.092)
nb			0.130	0.130
			(0.099)	(0.100)
que			0.102*	0.100*
			(0.044)	(0.047)
man			0.162	0.162*
			(0.110)	(0.110)
sask			0.317**	0.318**
			(0.100)	(0.100)
alta			0.184**	0.185**
			(0.065)	(0.065)
bc			0.114*	0.115*
			(0.055)	(0.055)
terr			0.512	0.504
			(0.312)	(0.323)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from the COEP93 and COEP95.

Table 6
Cox Partial Likelihood Determinants of Unemployment Spells
SW/Oth sample and subsamples

Model : # obs : Depvar:	1 2468 uspell	2 3403 uspell	3 7791 uspell	4 4890 uspell	5 6860 uspell
coep	0.200** 0.061)	0.389** (0.052)	0.221** (0.037)	0.191** (0.048)	0.206** (0.038)
localu	0.000 (0.010)	0.006 (0.008)	0.005 (0.006)	0.000 (0.007)	0.000 (0.006)
male	0.189** (0.063)	0.317** (0.049)	0.195** (0.036)	0.144** (0.045)	0.214** (0.037)
r_ft	0.049 (0.092)	0.015 (0.066)	0.011 (0.051)	-0.048 (0.067)	0.006 (0.053)
marr	0.129* (0.065)	0.034 (0.052)	0.015 (0.037)	0.035 (0.047)	0.014 (0.038)
age	0.013 (0.021)	0.006 (0.016)	0.010 (0.012)	0.020 (0.018)	0.006 (0.015)
age2	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
vismin	-0.023 (0.079)	-0.122 (0.062)	-0.025 (0.044)	-0.071 (0.058)	0.001 (0.047)
leelem	-0.066 (0.172)	0.144 (0.10)	0.057 (0.077)	0.130 (0.098)	0.034 (0.081)
s_hs	-0.010 (0.084)	0.059 (0.068)	0.013 (0.048)	0.039 (0.066)	-0.030 (0.051)
trade	-0.081 (0.132)	0.122 (0.121)	0.061 (0.078)	0.185 (0.098)	0.017 (0.079)
scoll	0.072 (0.120)	0.341** (0.102)	0.180* (0.071)	0.077 (0.083)	0.195** (0.073)
coll	-0.027 (0.107)	0.167* (0.080)	0.121 (0.064)	0.157* (0.076)	0.087 (0.066)
s_univ	0.364** (0.135)	-0.069 (0.128)	0.060 (0.090)	0.031 (0.114)	-0.002 (0.102)
gugrad	-0.038 (0.090)	-0.025 (0.083)	0.008 (0.060)	0.081 (0.072)	0.021 (0.061)
nfld	-0.007 (0.195)	-0.311 (0.200)	-0.197 (0.138)	0.069 (0.139)	-0.277 (0.147)
pei	1.001 (0.582)	0.211 (0.263)	0.512 (0.320)	0.196 (0.257)	0.442 (0.335)
ns	-0.188 (0.185)	-0.071 (0.119)	-0.058 (0.091)	-0.235 (0.134)	-0.127 (0.099)
nb	0.120 (0.159)	0.181 (0.131)	0.141 (0.098)	0.078 (0.151)	0.089* (0.101)
que	0.215** (0.083)	-0.067 (0.065)	0.112* (0.047)	0.073 (0.061)	0.080 (0.050)
man	0.256 (0.207)	-0.022 (0.155)	0.138 (0.115)	0.451** (0.122)	0.173 (0.113)
sask	0.259 (0.197)	0.299* (0.135)	0.321** (0.103)	0.230 (0.119)	0.312** (0.102)
alta	0.430** (0.093)	0.091 (0.108)	0.188** (0.065)	-0.005 (0.092)	0.161* (0.069)
bc	0.140 (0.091)	0.013 (0.081)	0.110 (0.057)	0.134 (0.071)	0.152** (0.059)
terr	0.879* (0.368)	-0.472 (0.516)	0.440 (0.314)	0.470 (0.519)	0.232 (0.357)
elig			-0.048 (0.055)		
elgwks			-0.004** (0.001)		
ui3of5					0.222** (0.037)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; model 3 studies the effects of eligibility for the full sample; model 4 is estimated only for those eligible for UI; and model 5 studies the effect of past claim history.

Table 7
Exponential Duration Model of Determinants of Unemployment Spells
Full Sample

Model :	**1**	**2**	**3**	**4**
# obs :	**11857**	**11855**	**10251**	**10250**
Depvar:	**uspell**	**uspell**	**uspell**	**uspell**
coep	0.472**	0.483**	0.217**	0.220**
	(0.031)	(0.032)	(0.034)	(0.036)
localu		0.008		0.002
		(0.004)		(0.006)
male			0.232**	0.233**
			(0.035)	(0.035)
r_ft			0.050	0.050
			(0.047)	(0.047)
marr			0.000	0.000
			(0.037)	(0.037)
age			0.003	0.003
			(0.011)	(0.011)
age2			0.000	0.000
			(0.000)	(0.000)
vismin			-0.036	-0.037
			(0.042)	(0.042)
leelem			0.053	0.053
			(0.082)	(0.082)
s_hs			0.012	0.012
			(0.046)	(0.046)
trade			0.061	0.061
			(0.078)	(0.078)
scoll			0.127	0.127
			(0.067)	(0.067)
coll			0.095	0.096
			(0.063)	(0.063)
s_univ			0.080	0.081
			(0.081)	(0.081)
gugrad			-0.002	-0.001
			(0.056)	(0.056)
nfld			-0.154	-0.165
			(0.131)	(0.135)
pei			0.602*	0.592*
			(0.298)	(0.298)
ns			-0.004	-0.009
			(0.084)	(0.086)
nb			0.178	0.175
			(0.10)	(0.101)
que			0.141**	0.136**
			(0.044)	(0.046)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. All models also include a constant term.

Table 8
Exponential Duration Model of Determinants of Unemployment Spells
Various Samples (see notes)

Model : # obs : Depvar:	1 3451 uspell	2 3776 uspell	3 10217 uspell	4 6479 uspell	5 8857 uspell
coep	0.108 (0.062)	0.399** (0.055)	0.224** (0.036)	0.232** (0.048)	0.216** (0.039)
localu	0.004 (0.010)	0.002 (0.008)	0.004 (0.006)	0.009 (0.008)	0.001 (0.006)
male	0.231** (0.060)	0.328** (0.053)	0.215** (0.035)	0.195** (0.046)	0.268** (0.038)
r_ft	0.215** (0.083)	0.053 (0.072)	0.062 (0.047)	0.031 (0.063)	0.057 (0.051)
marr	0.135* (0.066)	0.025 (0.056)	0.000 (0.037)	0.057 (0.049)	0.008 (0.039)
age	0.007 (0.020)	0.030 (0.019)	0.004 (0.012)	0.004 (0.016)	0.003 (0.014)
age2	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
vismin	-0.047 (0.078)	-0.175** (0.067)	-0.036 (0.043)	-0.021 (0.056)	-0.038 (0.046)
leelem	-0.044 (0.170)	0.108 (0.113)	0.041 (0.084)	0.150 (0.097)	0.016 (0.085)
s_hs	-0.087 (0.081)	0.086 (0.071)	0.006 (0.046)	-0.012 (0.067)	-0.055 (0.050)
trade	-0.164 (0.146)	0.145 (0.131)	0.041 (0.078)	0.119 (0.103)	-0.022 (0.083)
scoll	0.055 (0.106)	0.249* (0.118)	0.134* (0.068)	0.089 (0.083)	0.160* (0.073)
coll	0.033 (0.10)	0.168 (0.090)	0.114 (0.063)	0.074 (0.081)	0.064 (0.067)
s_univ	0.233 (0.132)	-0.084 (0.132)	0.099 (0.081)	0.006 (0.10)	0.062 (0.090)
gugrad	-0.020 (0.089)	-0.052 (0.086)	0.021 (0.057)	0.072 (0.069)	0.020 (0.060)
nfld	-0.080 (0.186)	-0.302 (0.218)	-0.183 (0.138)	0.005 (0.139)	-0.244 (0.147)
pei	1.162 (0.750)	0.329 (0.274)	0.588* (0.298)	0.247 (0.264)	0.525 (0.312)
ns	-0.021 (0.170)	-0.095 (0.128)	-0.001 (0.085)	-0.179 (0.120)	-0.065 (0.094)
nb	0.156 (0.156)	0.131 (0.140)	0.176 (0.099)	0.085 (0.148)	0.150 (0.104)
que	0.250** (0.080)	-0.038 (0.070)	0.141** (0.047)	0.067 (0.061)	0.113* (0.050)
man	0.202 (0.191)	0.022 (0.158)	0.094 (0.108)	0.295* (0.138)	0.122 (0.111)
sask	0.328 (0.174)	0.296 (0.160)	0.234* (0.102)	0.159 (0.130)	0.283** (0.107)
alta	0.467** (0.093)	0.089 (0.111)	0.204** (0.061)	0.003 (0.089)	0.170* (0.068)
bc	0.051 (0.090)	0.028 (0.088)	0.101 (0.055)	0.088 (0.068)	0.134* (0.059)
terr	0.511 (0.420)	-0.408 (0.556)	0.438 (0.295)	-0.015 (0.574)	0.267 (0.370)
elig			-0.109 (0.056)		
elgwks			-0.002 (0.001)		
ui3of5					0.185** (0.037)

Note:Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; model 3 studies the effects of eligibility for the full sample; model 4 is estimated only for those eligible for UI; and model 5 studies the effect of past claim history. All models also include a constant term.

Table 9
Exponential Duration Model of Determinants of Unemployment Spells
VQ/Dis Sample

Model :	1	2	3	4
# obs :	2567	2567	1947	1947
Depvar:	uspell	uspell	uspell	uspell
coep	0.673**	0.696**	0.217**	0.239**
	(0.068)	(0.071)	(0.080)	(0.086)
localu		0.014		0.015
		(0.011)		(0.016)
male			0.257**	0.256**
			(0.083)	(0.083)
r_ft			0.157	0.156
			(0.097)	(0.097)
marr			0.003	-0.003
			(0.096)	(0.095)
age			-0.003	-0.003
			(0.030)	(0.030)
age2			0.000	0.000
			(0.000)	(0.000)
vismin			-0.049	-0.050
			(0.097)	(0.097)
leelem			-0.113	-0.128
			(0.336)	(0.338)
s_hs			-0.076	-0.082
			(0.106)	(0.106)
trade			-0.123	-0.126
			(0.213)	(0.213)
scoll			0.021	0.017
			(0.141)	(0.141)
coll			0.030	0.040
			(0.140)	(0.138)
s_univ			0.118	0.118
			(0.155)	(0.155)
gugrad			-0.005	0.001
			(0.137)	(0.137)
nfld			0.224	0.220
			(0.253)	(0.244)
pei			0.902*	0.851*
			(0.368)	(0.369)
ns			0.419*	0.375
			(0.207)	(0.212)
nb			0.506	0.487
			(0.264)	(0.268)
que			0.253*	0.213
			(0.107)	(0.113)
man			0.072	0.079
			(0.226)	(0.227)
sask			0.030	0.035
			(0.220)	(0.220)
alta			0.258*	0.261*
			(0.131)	(0.131)
bc			0.048	0.044
			(0.120)	(0.119)
terr			0.372	0.179
			(0.905)	(0.957)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. All models also include a constant term.

Table 10
Exponential Duration Model of Determinants of Unemployment Spells
VQ/Dis sample and subsamples

Model : # obs : Depvar:	1 922 uspell	2 213 uspell	3 1934 uspell	4 1197 uspell	5 1561 uspell
coep	0.340* (0.156)	0.335 (0.276)	0.274** (0.088)	0.407** (0.122)	0.269** (0.098)
localu	0.016 (0.024)	-0.038 (0.050)	0.006 (0.016)	0.052** (0.020)	0.012 (0.019)
male	0.260* (0.126)	0.378 (0.276)	0.259** (0.083)	0.235* (0.117)	0.359** (0.097)
r_ft	0.481** (0.142)	0.273 (0.368)	0.152 (0.097)	0.292* (0.141)	0.175 (0.114)
marr	0.211 (0.141)	-0.184 (0.289)	0.000 (0.095)	0.167 (0.130)	0.061 (0.106)
age	0.002 (0.046)	0.154 (0.103)	-0.004 (0.030)	-0.005 (0.043)	0.000 (0.052)
age2	0.000 (0.000)	-0.001 (0.001)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
vismin	-0.101 (0.159)	-0.681* (0.297)	-0.049 (0.097)	0.084 (0.135)	-0.178 (0.116)
leelem	0.187 (0.352)	-0.679 (0.979)	-0.119 (0.338)	0.234 (0.545)	0.021 (0.344)
s_hs	-0.065 (0.167)	0.101 (0.316)	-0.065 (0.108)	-0.260 (0.168)	-0.155 (0.129)
trade	-0.313 (0.376)	-0.173 (0.659)	-0.113 (0.211)	-0.235 (0.319)	-0.235 (0.244)
scoll	0.041 (0.190)	-0.322 (0.498)	0.028 (0.140)	-0.027 (0.193)	0.067 (0.161)
coll	0.096 (0.188)	-0.188 (0.420)	0.060 (0.137)	-0.134 (0.190)	-0.045 (0.157)
s_univ	-0.049 (0.239)	0.527 (0.512)	0.126 (0.156)	-0.119 (0.179)	0.113 (0.182)
gugrad	0.011 (0.198)	-0.495 (0.415)	0.005 (0.137)	-0.005 (0.175)	-0.064 (0.159)
nfld	-0.353 (0.390)	1.511** (0.585)	0.242 (0.244)	0.098 (0.425)	0.247 (0.263)
ns	0.929* (0.382)	-0.283 (0.758)	0.402 (0.210)	0.156 (0.280)	0.362 (0.245)
nb	0.360 (0.373)	-0.467 (0.887)	0.454 (0.270)	0.552 (0.377)	0.539 (0.288)
que	0.318* (0.158)	0.050 (0.350)	0.225* (0.113)	0.019 (0.162)	0.203 (0.133)
man	0.205 (0.316)	0.362 (0.494)	0.080 (0.227)	-0.115 (0.395)	0.101 (0.256)
sask	0.293 (0.294)	-0.545 (0.837)	0.033 (0.218)	-0.118 (0.314)	0.261 (0.264)
alta	0.450* (0.195)	-0.084 (0.363)	0.247 (0.131)	0.001 (0.191)	0.171 (0.155)
bc	-0.228 (0.187)	-0.389 (0.415)	0.043 (0.120)	-0.059 (0.150)	0.053 (0.142)
terr	-0.448 (1.162)	-0.408 (0.556)	0.216 (0.925)	-1.258 (1.107)	0.058 (1.152)
pei	1.162 (0.750)	0.963 (0.902)	0.882* (0.373)	1.612** (0.606)	0.849* (0.412)
elig			-0.392** (0.151)		
elgwks			0.009* (0.004)		
ui3of5					0.020 (0.105)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; model 3 studies the effects of eligibility for the full sample; model 4 is estimated only for those eligible for UI; and model 5 studies the effect of past claim history. All models also include a constant term.

Table 11
Exponential Duration Model of Determinants of Unemployment Spells
SW/Oth Sample

Model :	1	2	3	4
# obs :	8474	8472	7810	7809
Depvar:	uspell	uspell	uspell	uspell
coep	0.377**	0.382**	0.233**	0.235**
	(0.036)	(0.036)	(0.038)	(0.039)
localu		0.004		0.001
		(0.005)		(0.006)
male			0.228**	0.229**
			(0.038)	(0.038)
r_ft			0.003	0.003
			(0.055)	(0.055)
marr			0.018	0.017
			(0.040)	(0.040)
age			0.009	0.009
			(0.013)	(0.013)
age2			0.000	0.000
			(0.000)	(0.000)
vismin			-0.030	-0.031
			(0.048)	(0.048)
leelem			0.084	0.085
			(0.083)	(0.083)
s_hs			0.033	0.034
			(0.052)	(0.052)
trade			0.088	0.088
			(0.083)	(0.083)
scoll			0.172*	0.172*
			(0.076)	(0.076)
coll			0.116	0.117
			(0.068)	(0.068)
s_univ			0.031	0.031
			(0.10)	(0.10)
gugrad			-0.026	-0.025
			(0.063)	(0.063)
nfld			-0.191	-0.199
			(0.142)	(0.148)
pei			0.534	0.527
			(0.344)	(0.345)
ns			-0.073	-0.077
			(0.096)	(0.099)
nb			0.131	0.129
			(0.107)	(0.108)
que			0.109*	0.105*
			(0.048)	(0.051)
man			0.172	0.172
			(0.120)	(0.120)
sask			0.344**	0.346**
			(0.110)	(0.110)
alta			0.194**	0.195**
			(0.071)	(0.071)
bc			0.132*	0.133*
			(0.061)	(0.061)
terr			0.561	0.542
			(0.344)	(0.357)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. All models also include a constant term.

Table 12
Exponential Duration Model of Determinants of Unemployment Spells
SW/Oth sample and subsamples

Model :	1	2	3	4	5
# obs :	2468	3403	7791	4890	6860
Depvar:	uspell	uspell	uspell	uspell	uspell
coep	0.009	0.412**	0.234**	0.191**	0.219**
	(0.068)	(0.057)	(0.040)	(0.052)	(0.042)
localu	0.001	0.007	0.006	0.001	0.000
	(0.011)	(0.009)	(0.006)	(0.007)	(0.006)
male	0.208**	0.345**	0.211**	0.155**	0.232**
	(0.070)	(0.054)	(0.039)	(0.048)	(0.040)
r_ft	0.051	0.021	0.014	-0.042	0.011
	(0.102)	(0.072)	(0.055)	(0.072)	(0.058)
marr	0.147*	0.035	0.017	0.035	0.018
	(0.074)	(0.057)	(0.040)	(0.051)	(0.042)
age	0.011	0.005	0.009	0.020	0.005
	(0.023)	(0.018)	(0.013)	(0.019)	(0.016)
age2	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
vismin	-0.023	-0.132	-0.023	-0.071	0.007
	(0.088)	(0.069)	(0.049)	(0.062)	(0.051)
leelem	-0.076	0.161	0.067	0.143	0.038
	(0.192)	(0.112)	(0.085)	(0.106)	(0.089)
s_hs	-0.021	0.077	0.016	0.039	-0.035
	(0.095)	(0.075)	(0.053)	(0.071)	(0.055)
trade	-0.088	0.134	0.071	0.193	0.021
	(0.151)	(0.136)	(0.085)	(0.105)	(0.087)
scoll	0.062	0.379**	0.189*	0.077	0.205*
	(0.134)	(0.113)	(0.078)	(0.089)	(0.080)
coll	0.035	0.199*	0.132	0.170*	0.092
	(0.119)	(0.088)	(0.069)	(0.081)	(0.072)
s_univ	0.408*	-0.080	0.056	0.025	-0.013
	(0.161)	(0.141)	(0.099)	(0.123)	(0.111)
gugrad	-0.044	-0.027	0.001	0.078	0.011
	(0.099)	(0.091)	(0.065)	(0.077)	(0.067)
nfld	-0.016	-0.346	-0.217	0.065	-0.304
	(0.215)	(0.222)	(0.152)	(0.148)	(0.163)
pei	1.143	0.203	0.526	0.193	0.447
	(0.743)	(0.291)	(0.348)	(0.275)	(0.360)
ns	-0.217	-0.079	-0.070	-0.259	-0.148
	(0.201)	(0.131)	(0.098)	(0.143)	(0.107)
nb	0.123	0.191	0.143	0.068	0.088
	(0.172)	(0.144)	(0.107)	(0.162)	(0.110)
que	0.232*	-0.082	0.118*	0.076	0.085
	(0.093)	(0.072)	(0.052)	(0.065)	(0.055)
man	0.277	-0.036	0.145	0.480**	0.183
	(0.235)	(0.170)	(0.127)	(0.132)	(0.124)
sask	0.276	0.338*	0.349**	0.247	0.342**
	(0.221)	(0.151)	(0.113)	(0.126)	(0.113)
alta	0.474**	0.090	0.200**	-0.001	0.172*
	(0.105)	(0.120)	(0.072)	(0.099)	(0.076)
bc	(0.101)	(0.018)	(0.127)	(0.153)	(0.065)
	(0.101)	(0.089)	(0.062)	0.077)	(0.065)
terr	0.972*	-0.515	0.478	0.486	0.251
	(0.435)	(0.554)	(0.346)	(0.557)	(0.383)
elig			-0.059		
			(0.060)		
elgwks			-0.004**		
			(0.002)		
ui3of5					0.241**
					(0.041)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; model 3 studies the effects of eligibility for the full sample; model 4 is estimated only for those eligible for UI; and model 5 studies the effect of past claim history. All models also include a constant term.

Table 13
Weibull Model Determinants of Unemployment Spells
Full Sample

Model :	1	2	3	4
# obs :	11857	11855	10251	10250
Depvar:	uspell	uspell	uspell	uspell
coep	0.444**	0.453**	0.208**	0.210**
	(0.029)	(0.029)	(0.031)	(0.032)
const	-3.066**	-3.139**	-3.259**	-3.271**
	(0.040)	(0.062)	(0.265)	(0.269)
localu		0.007		0.002
		(0.004)		(0.005)
male			0.215**	0.216**
			(0.031)	(0.031)
r_ft			0.046	0.045
			(0.042)	(0.042)
marr			0.003	0.002
			(0.033)	(0.033)
age			0.002	0.002
			(0.010)	(0.010)
age2			0.000	0.000
			(0.000)	(0.000)
vismin			-0.038	-0.038
			(0.038)	(0.038)
leelem			0.044	0.044
			(0.072)	(0.072)
s_hs			0.009	0.009
			(0.041)	(0.041)
trade			0.058	0.058
			(0.069)	(0.069)
scoll			0.117	0.117
			(0.060)	(0.060)
coll			0.090	0.091
			(0.056)	(0.056)
s_univ			0.077	0.077
			(0.073)	(0.073)
gugrad			-0.001	0.000
			(0.051)	(0.051)
nfld			-0.145	-0.154
			(0.118)	(0.121)
pei			0.542*	0.533
			(0.272)	(0.272)
ns			-0.005	-0.009
			(0.076)	(0.078)
nb			0.160	0.157
			(0.089)	(0.090)
que			0.125**	0.121**
			(0.039)	(0.042)
man			0.102	0.103
			(0.094)	(0.094)
sask			0.199*	0.200*
			(0.089)	(0.089)
alta			0.187**	0.188**
			(0.055)	(0.055)
bc			0.090	0.090
			(0.048)	(0.048)
terr			0.431	0.409
			(0.259)	(0.270)
ln q	-0.246**	-0.246**	-0.287**	-0.287**
	(0.013)	(0.013)	(0.013)	(0.013)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. The ln q parameter is the estimated shape of the baseline hazard for the Weibull distribution, with ln $q < 0$ implying a decreasing hazard.

Table 14
Weibull Model Determinants of Unemployment Spells
Various Samples (see notes)

Model :	1	2	3	4	5
# obs :	3451	3776	10217	6479	8857
Depvar:	uspell	uspell	uspell	uspell	uspell
coep	0.121*	0.368**	0.214**	0.220**	0.204**
	(0.052)	(0.050)	(0.032)	(0.043)	(0.034)
localu	0.002	0.002	0.003	0.008	0.001
	(0.008)	(0.008)	(0.005)	(0.007)	(0.006)
male	0.202**	0.304**	0.200**	0.182**	0.246**
	(0.051)	(0.048)	(0.031)	(0.041)	(0.034)
r_ft	0.187**	0.046	0.056	0.029	0.052
	(0.070)	(0.066)	(0.042)	(0.057)	(0.045)
marr	0.111*	0.024	0.003	0.051	0.009
	(0.055)	(0.051)	(0.033)	(0.044)	(0.035)
age	0.007	0.028	0.003	0.003	0.002
	(0.017)	(0.017)	(0.010)	(0.014)	(0.013)
age2	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
vismin	-0.049	-0.160**	-0.037	-0.024	-0.040
	(0.065)	(0.061)	(0.038)	(0.050)	(0.041)
leelem	-0.049	0.099	0.034	0.131	0.012
	(0.142)	(0.102)	(0.073)	(0.087)	(0.075)
s_hs	-0.057	0.074	0.003	-0.016	-0.051
	(0.068)	(0.065)	(0.041)	(0.060)	(0.045)
trade	-0.129	0.132	0.041	0.107	-0.015
	(0.121)	(0.118)	(0.069)	(0.092)	(0.073)
scoll	0.053	0.225*	0.124*	0.082	0.143*
	(0.090)	(0.107)	(0.061)	(0.075)	(0.064)
coll	0.032	0.157	0.107	0.070	0.060
	(0.085)	(0.081)	(0.056)	(0.073)	(0.060)
s_univ	0.197	-0.069	0.094	0.003	0.060
	(0.107)	(0.122)	(0.073)	(0.090)	(0.081)
gugrad	-0.009	-0.052	0.020	0.064	0.016
	(0.076)	(0.079)	(0.051)	(0.062)	(0.054)
nfld	-0.072	-0.286	-0.169	-0.003	-0.218
	(0.159)	(0.201)	(0.124)	(0.125)	(0.132)
pei	0.998	0.287	0.529	0.205	0.477
	(0.576)	(0.243)	(0.271)	(0.229)	(0.283)
ns	-0.014	-0.089	-0.004	-0.162	-0.059
	(0.149)	(0.116)	(0.077)	(0.109)	(0.084)
nb	0.124	0.120	0.157	0.077	0.131
	(0.134)	(0.127)	(0.089)	(0.134)	(0.092)
que	0.216**	-0.036	0.125**	0.056	0.100*
	(0.068)	(0.063)	(0.042)	(0.055)	(0.045)
man	0.158	0.020	0.084	0.255*	0.107
	(0.158)	(0.145)	(0.097)	(0.122)	(0.099)
sask	0.260	0.263	0.202*	0.129	0.240**
	(0.142)	(0.143)	(0.089)	(0.114)	(0.093)
alta	0.383**	0.071	0.181**	0.010	0.152*
	(0.077)	(0.101)	(0.055)	(0.081)	(0.061)
bc	0.044	0.021	0.091	0.073	0.118*
	(0.078)	(0.079)	(0.049)	(0.061)	(0.052)
terr	0.430	-0.395	0.378	0.007	0.236
	(0.337)	(0.503)	(0.257)	(0.526)	(0.323)
const	-3.431**	-3.901**	-3.222**	-3.475**	-3.313**
	(0.451)	(0.456)	(0.271)	(0.376)	(0.333)
elig			-0.097		
			(0.050)		
elgwks			-0.001		
			(0.001)		
ui3of5					0.156**
					(0.033)
ln q	-0.457**	-0.223**	-0.286**	-0.300**	-0.305**
	(0.019)	(0.019)	(0.013)	(0.017)	(0.014)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; model 3 studies the effects of eligibility for the full sample; model 4 is estimated only for those eligible for UI; and model 5 studies the effect of past claim history. The ln q parameter is the estimated shape of the baseline hazard for the Weibull distribution, with ln q < 0 implying a decreasing hazard.

Table 15
Weibull Model Determinants of Unemployment Spells
VQ/Dis Sample

Model :	**1**	**2**	**3**	**4**
# obs :	**2567**	**2567**	**1947**	**1947**
Depvar:	**uspell**	**uspell**	**uspell**	**uspell**
coep	0.629**	0.648**	0.224**	0.241**
	(0.060)	(0.063)	(0.067)	(0.071)
const	-2.740**	-2.863**	-2.875**	-2.970**
	(0.062)	(0.124)	(0.667)	(0.676)
localu		0.012		0.012
		(0.010)		(0.013)
male			0.224**	0.223**
			(0.070)	(0.069)
r_ft			0.141	0.141
			(0.080)	(0.080)
marr			0.013	0.009
			(0.081)	(0.080)
age			-0.002	-0.002
			(0.025)	(0.025)
age2			0.000	0.000
			(0.000)	(0.000)
vismin			-0.053	-0.053
			(0.081)	(0.081)
leelem			-0.112	-0.123
			(0.268)	(0.269)
s_hs			-0.072	-0.076
			(0.088)	(0.088)
trade			-0.097	-0.098
			(0.175)	(0.175)
scoll			0.014	0.012
			(0.116)	(0.117)
coll			0.030	0.038
			(0.118)	(0.116)
s_univ			0.093	0.094
			(0.125)	(0.125)
gugrad			0.007	0.012
			(0.116)	(0.116)
nfld			0.165	0.157
			(0.203)	(0.194)
pei			0.647*	0.602*
			(0.288)	(0.295)
ns			0.343*	0.310
			(0.166)	(0.170)
nb			0.397	0.385
			(0.207)	(0.210)
que			0.205*	0.173
			(0.090)	(0.094)
man			0.046	0.051
			(0.188)	(0.189)
sask			0.030	0.034
			(0.182)	(0.182)
alta			0.203	0.207
			(0.108)	(0.109)
bc			0.040	0.036
			(0.101)	(0.10)
terr			0.312	0.174
			(0.752)	(0.793)
ln q	-0.443**	-0.443**	-0.520**	-0.520**
	(0.024)	(0.024)	(0.024)	(0.024)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. The ln q parameter is the estimated shape of the baseline hazard for the Weibull distribution, with ln $q < 0$ implying a decreasing hazard.

Table 16
Weibull Model Determinants of Unemployment Spells
VQ/Dis Sample and subsamples

Model : # obs : Depvar:	1 922 uspell	2 213 uspell	3 1934 uspell	4 1197 uspell	5 1561 uspell
coep	0.278* (0.118)	0.319 (0.214)	0.270** (0.073)	0.376** (0.10)	0.263** (0.080)
const	-3.172** (0.921)	-5.575* (2.381)	-2.904** (0.672)	-3.596** (0.957)	-2.913* (1.181)
localu	0.007 (0.018)	-0.031 (0.040)	0.005 (0.013)	0.043* (0.017)	0.008 (0.015)
male	0.200* (0.095)	0.310 (0.220)	0.224** (0.069)	0.217* (0.094)	0.304** (0.080)
r_ft	0.395** (0.111)	0.262 (0.297)	0.137 (0.080)	0.243* (0.115)	0.161 (0.092)
marr	0.159* (0.105)	-0.106 (0.243)	0.009 (0.080)	0.134 (0.107)	0.065 (0.088)
age	0.004 (0.034)	0.122 (0.083)	-0.003 (0.025)	-0.001 (0.036)	-0.001 (0.043)
age2	0.000 (0.000)	-0.001 (0.001)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
vismin	-0.099 (0.122)	-0.573* (0.256)	-0.051 (0.081)	0.044 (0.108)	-0.153 (0.096)
leelem	0.015 (0.249)	-0.589 (0.836)	-0.114 (0.269)	0.239 (0.436)	-0.028 (0.277)
s_hs	-0.055 (0.126)	0.112 (0.247)	-0.063 (0.090)	-0.232 (0.139)	-0.131 (0.107)
trade	-0.218 (0.293)	-0.124 (0.521)	-0.089 (0.174)	-0.178 (0.257)	-0.191 (0.199)
scoll	0.026 (0.145)	-0.268 (0.416)	0.018 (0.116)	-0.019 (0.156)	0.041 (0.130)
coll	0.065 (0.140)	-0.091 (0.364)	0.050 (0.115)	-0.109 (0.157)	-0.033 (0.131)
s_univ	-0.015 (0.186)	0.486 (0.413)	0.099 (0.126)	-0.109 (0.149)	0.073 (0.144)
gugrad	0.017 0.153)	-0.406 (0.351)	0.014 (0.116)	-0.002 (0.144)	-0.039 (0.132)
nfld	-0.276 (0.335)	0.920* (0.358)	0.172 (0.194)	0.029 (0.325)	0.161 (0.206)
ns	0.678** (0.256)	-0.306 (0.609)	0.328 (0.168)	0.122 (0.222)	0.302 (0.192)
nb	0.254 (0.275)	-0.368 (0.810)	0.360 (0.211)	0.409 (0.289)	0.399 (0.212)
que	0.262* (0.119)	0.017 (0.30)	0.181 (0.094)	0.001 (0.133)	0.170 (0.109)
man	0.118 (0.233)	0.239 (0.378)	0.050 (0.189)	-0.089 (0.327)	0.058 (0.208)
sask	0.241 (0.219)	-0.491 (0.708)	0.031 (0.181)	-0.111 (0.254)	0.195 (0.208)
alta	0.337* (0.143)	-0.10 (0.297)	0.193 (0.109)	0.008 (0.159)	0.142 (0.128)
bc	-0.194 (0.151)	-0.349 (0.347)	0.034 (0.101)	-0.053 (0.124)	0.040 (0.118)
terr	-0.360 (0.955)	--	0.181 (0.766)	-1.077 (0.978)	0.066 (0.975)
pei	0.998 (0.576)	0.882 (0.664)	0.633* (0.296)	0.899** (0.269)	0.564 (0.325)
elig			-0.320* (0.125)		
elgwks			0.007* (0.003)		
ui3of5					0.007** (0.085)
ln q	-0.711** (0.026)	-0.522** (0.068)	-0.521** (0.024)	-0.595** (0.029)	-0.595** (0.025)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. — means that a variable was dropped owing to collinearity. Based on weighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; model 3 studies the effects of eligibility for the full sample; model 4 is estimated only for those eligible for UI; and model 5 studies the effect of past claim history. The ln q parameter is the estimated shape of the baseline hazard for the Weibull distribution, with ln $q < 0$ implying a decreasing hazard.

Table 17
Weibull Model Determinants of Unemployment Spells
SW/Oth Sample

Model :	**1**	**2**	**3**	**4**
# obs :	**8474**	**8472**	**7810**	**7809**
Depvar:	**uspell**	**uspell**	**uspell**	**uspell**
coep	0.355**	0.360**	0.220**	0.222**
	(0.033)	(0.034)	(0.035)	(0.036)
const	-3.138**	-3.181**	-3.560**	-3.568**
	(0.051)	(0.072)	(0.317)	(0.323)
localu		0.004		0.001
		(0.005)		(0.006)
male			0.215**	0.216**
			(0.035)	(0.035)
r_ft			0.003	0.002
			(0.051)	(0.051)
marr			0.017	0.017
			(0.037)	(0.037)
age			0.009	0.008
			(0.012)	(0.012)
age2			0.000	0.000
			(0.000)	(0.000)
vismin			-0.030	-0.031
			(0.044)	(0.044)
leelem			0.076	0.077
			(0.076)	(0.076)
s_hs			0.030	0.030
			(0.048)	(0.048)
trade			0.084	0.085
			(0.076)	(0.076)
scoll			0.163*	0.163*
			(0.070)	(0.070)
coll			0.109	0.110
			(0.062)	(0.062)
s_univ			0.036	0.036
			(0.093)	(0.093)
gugrad			-0.025	-0.025
			(0.058)	(0.058)
nfld			-0.179	-0.187
			(0.132)	(0.138)
pei			0.504	0.498
			(0.325)	(0.326)
ns			-0.068	-0.071
			(0.090)	(0.092)
nb			0.123	0.121
			(0.099)	(0.10)
que			0.100*	0.097*
			(0.044)	(0.047)
man			0.157	0.157
			(0.110)	(0.110)
sask			0.307**	0.308**
			(0.099)	(0.099)
alta			0.180**	0.180**
			(0.065)	(0.065)
bc			0.121*	0.121*
			(0.056)	(0.056)
terr			0.519	0.502
			(0.309)	(0.320)
ln q	-0.188**	-0.188**	-0.206**	-0.206**
	(0.015)	(0.015)	(0.015)	(0.015)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. The ln q parameter is the estimated shape of the baseline hazard for the Weibull distribution, with ln $q < 0$ implying a decreasing hazard.

Table 18
Weibull Model Determinants of Unemployment Spells
SW/Oth Sample and subsamples

Model :	1	2	3	4	5
# obs :	2468	3403	7791	4890	6860
Depvar:	uspell	uspell	uspell	uspell	uspell
coep	0.021	0.384**	0.220**	0.181**	0.204**
	(0.061)	(0.052)	(0.037)	(0.048)	(0.038)
const	-3.808**	-3.422**	-3.481**	-3.983**	-3.599**
	(0.559)	(0.434)	(0.323)	(0.475)	(0.393)
localu	0.000	0.007	0.005	0.000	0.000
	(0.010)	(0.008)	(0.006)	(0.007)	(0.006)
male	0.191**	0.324**	0.199**	0.150**	0.219**
	(0.063)	(0.050)	(0.036)	(0.045)	(0.037)
r_ft	0.042	0.018	0.013	-0.040	0.009
	(0.092)	(0.067)	(0.051)	(0.067)	(0.053)
marr	0.130*	0.033	0.016	0.032	0.016
	(0.065)	(0.053)	(0.037)	(0.047)	(0.038)
age	0.010	0.005	0.008	0.019	0.005
	(0.021)	(0.017)	(0.012)	(0.018)	(0.015)
age2	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
vismin	-0.023	-0.121	-0.024	-0.067	0.003
	(0.079)	(0.063)	(0.045)	(0.058)	(0.047)
leelem	-0.068	0.150	0.060	0.134	0.035
	(0.173)	(0.102)	(0.078)	(0.098)	(0.082)
s_hs	-0.018	0.067	0.014	0.035	-0.032
	(0.084)	(0.070)	(0.048)	(0.066)	(0.051)
trade	-0.076	0.126	0.071	0.182	0.024
	(0.134)	(0.124)	(0.078)	(0.098)	(0.079)
scoll	0.065	0.348**	0.177*	0.074	0.190**
	(0.121)	(0.103)	(0.071)	(0.084)	(0.073)
coll	-0.026	0.183*	0.125*	0.162*	0.086
	(0.107)	(0.080)	(0.064)	(0.076)	(0.066)
s_univ	0.372**	-0.067	0.060	0.026	-0.003
	(0.140)	(0.132)	(0.092)	(0.116)	(0.103)
gugrad	-0.038	-0.029	0.000	0.071	0.006
	(0.089)	(0.084)	(0.060)	(0.072)	(0.061)
nfld	-0.011	-0.328	-0.201	0.061	-0.279
	(0.194)	(0.208)	(0.141)	(0.139)	(0.151)
pei	1.063	0.177	0.497	0.174	0.428
	(0.639)	(0.264)	(0.327)	(0.254)	(0.340)
ns	-0.190	-0.073	-0.066	-0.242	-0.136
	(0.187)	(0.120)	(0.091)	(0.136)	(0.099)
nb	0.113	0.175	0.133	0.066	0.080
	(0.157)	(0.132)	(0.099)	(0.153)	(0.101)
que	0.216*	-0.076	0.109*	0.070	0.078
	(0.084)	(0.066)	(0.048)	(0.061)	(0.050)
man	0.240	-0.033	0.135	0.439**	0.168
	(0.207)	(0.158)	(0.116)	(0.121)	(0.114)
sask	0.227	0.305*	0.311**	0.218	0.302**
	(0.193)	0.137)	(0.102)	(0.116)	(0.101)
alta	0.423**	0.092	0.183**	0.005	0.157*
	(0.093)	(0.111)	(0.066)	(0.093	(0.070)
bc	0.147	0.015	0.117*	0.138	0.158**
	(0.091)	(0.082)	(0.057)	(0.071)	(0.059)
terr	0.890*	-0.494	0.440	0.471	0.237
	(0.367)	(0.509)	(0.311)	(0.515)	(0.354)
elig			-0.055		
			(0.055)		
elgwks			-0.004**		
			(0.001)		
ui3of5					0.216**
					(0.038)
ln q	-0.277**	-0.188**	-0.204**	-0.180**	-0.212**
	(0.026)	(0.020)	(0.015)	(0.020)	(0.016)

Notes Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; model 3 studies the effects of eligibility for the full sample; model 4 is estimated only for those eligible for UI; and model 5 studies the effect of past claim history. The ln q parameter is the estimated shape of the baseline hazard for the Weibull distribution, with ln q < 0 implying a decreasing hazard.

4. Results: UI Benefit Durations

In addition to investigation of the determinants of unemployment duration and the role played by UI changes such as those introduced by C-17, there is also some interest in the related modelling of the determinants of UI recipiency durations themselves. These durations — here termed benefit durations for brevity — are important for several reasons. First, assessment of the budgetary effect of a policy change, such as C-17, must require assessment of the effects on the level and duration of such benefit durations. Second, benefit durations, as opposed to unemployment durations, may fit more closely with the theoretical notion of the insurance vs. moral hazard tradeoff in models of optimal program design and size. Third, much past Canadian work on UI, including some of the most influential work (e.g., Ham and Rea 1987), has been forced to use benefit durations simply because the administrative data on which the work relied had no information beyond the end of the period of UI receipt. This said, it should be noted that benefit durations are clearly distinct from unemployment or jobless durations and that, as an empirical matter, these differences may be large. Lévesque (1987, 1989) compares LFS measured unemployment and the behaviour of UI recipiency data, and his work has been extended, with particular focus on cyclical issues, by Barnes & Picard (1992) and Roy (1994).[13]

In presenting this analysis of benefit durations, I have chosen to concentrate on results for the full sample. As with the mass of results in the previous section on unemployment durations, there were few differences in the main effect of C-17 by separation reason. Moreover, since the presentwork is necessarily restricted to those eligible for UI, and further restricted to those who actually initiated a claim, the sample size for the VQ/Dis group becomes quite small in many cases. As above, the analysis proceeds by examining a series of duration models, investigating alternative specifications, alternative distributional assumptions, and alternative sets of controls as supplement to the Before/After quasi-experimental effect. I again begin with the Cox partial likelihood model, and then investigate two alternative specifications.

Cox partial likelihood models

Tables 19 and 20 present the results of estimating Cox models of the determinants of benefit durations, restricted to the subsample who were both eligible for UI and who initiated a claim. In Table 19, Model 1 gives the pure quasi-experimental effect which, unsurprisingly, is large, and is much bigger

[13] See also the discussion of unemployment and UI spells in Corak and Jones 1995, pp.560-1.

than the analogous effect for unemployment durations from Table 1. Converted to hazard ratios, the point estimate of 1.241 in Table 19 Model 1 implies a proportional upward shift of the hazard of almost 3.5. Moreover, this large effect holds up when a control for local unemployment rates is added in Model 2, and when the standard broad set of demographic and other controls are added, without or with local unemployment rates, in Models 3 and 4 respectively.

It is interesting that, unlike the earlier unemployment duration results, these benefit duration models exhibit a significantly negative effect from local labour market conditions, both without other controls (Model 2) and when regional and demographics are addressed (Model 4). Also, in the final two models of Table 19, the data display significant effects for sex (men have a higher hazard and hence shorter expected durations), age (with a negative leading term), and some significant regional effects (even after controlling for local unemployment rates). Moreover, having held a full-time job prior to the benefit claim acts to lower the hazard significantly: such persons have a harder time finding a suitable new job and are more likely to remain on claim.

Table 20 then presents results for three related specifications. Model 1 studies the subsample not expecting return to the former job while Model 2 studies the complement who did report expecting such a return. There are some differences in the results between these two columns and relative to the overall sample from the previous Table, but these are not large. The coep effect is large and positive in both models, and other significant explanatory variables include sex and, for model 2, some provincial variables. The local unemployment rate point estimate stays about constant across the two columns and differs little from the Table 19 figures, but it loses statistical significance, perhaps as a consequence of the smaller sample sizes. Finally, the effect of having held a full-time position in the former job is only significant in model 1, for the subsample not expecting return, although the model 2 estimate is also negative, but insignificant. The final column of Table 20 augments the set of explanatory variables with a measure of the number of weeks of eligibility: this variable has a significantly negative effect, tending to lower the hazard and increase durations. However, one might prefer to model such UI eligibility and potential UI exhaustion issues in the context of time-varying covariates. This will be done in a joint model of benefit and unemployment durations in the next section.

Exponential regression and Weibull duration models

For comparability with the earlier results and assessment of robustness, I also briefly present results from estimating two parametric models of the hazard out of benefit receipt. Tables 21 and 22 give the constant hazard

results for the exponential specification, while Tables 23 and 24 give the analogous Weibull estimates.

The exponential models yield results that are qualitatively similar to the Cox specification, with significantly positive coep effects, some role for local labour market conditions, and some significant effect of sex, age, some provincial dummies and a role for full-time status on the past job. The coep effects are numerically smaller than in the Cox model but are still large in terms of their effects on the hazard: Table 21 Model 4, for example, implies a hazard 1.8 times higher for COEP95 than for COEP93.

The Weibull models in Tables 23 and 24 also give a similar set of results, with depressing effects of local unemployment rates on the hazard in Model 2 of Table 23 being swamped by the inclusion of the full set of controls in Model 4 of the same Table. Whereas the estimated shape parameter for the Weibull models of unemployment durations was negative, implying a declining hazard out of unemployment, the estimates of ln q here are all significantly positive, implying a hazard for benefit spells that rises as such spells lengthen. Again, one suspects that such findings may be proxying for effects related to the potential exhaustion of UI benefits, so that longer benefit durations mean moving closer to the end of benefit entitlement. We turn to this in the next Section. Before doing so, however, it is worth remarking that, again, the coep variable has sizeable and positive estimated coefficients in all these Weibull models. This estimate of the effect of C-17, given the other controls, appears once again to be quite well-determined in these data.

Table 19
Cox Partial Likelihood Determinants of UI Claim Spells
Full Sample

Model : **# obs :** **Depvar:**	**1** **5713** **uiclaim**	**2** **5713** **uiclaim**	**3** **5083** **uiclaim**	**4** **5083** **uiclaim**
coep	1.241** (0.056)	1.223** (0.056)	1.351** (0.060)	1.334** (0.061)
localu		-0.015** (0.005)		-0.011* (0.006)
male			0.173** (0.041)	0.171** (0.041)
r_ft			-0.192** (0.051)	-0.194** (0.051)
marr			0.041 (0.042)	0.041 (0.042)
age			-0.036* (0.016)	-0.035* (0.016)
age2			0.000** (0.000)	0.000** (0.000)
vismin			0.038 (0.052)	0.035 (0.053)
leelem			0.003 (0.078)	0.005 (0.078)
s_hs			-0.014 (0.056)	-0.011 (0.056)
trade			0.012 (0.098)	0.013 (0.097)
scoll			-0.006 (0.106)	-0.004 (0.106)
coll			-0.024 (0.064)	-0.025 (0.064)
s_univ			0.194* (0.095)	0.197* (0.095)
gugrad			0.116 (0.065)	0.115 (0.065)
nfld			-0.352** (0.091)	-0.278** (0.10)
pei			-0.015 (0.127)	0.044 (0.130)
ns			-0.413** (0.112)	-0.374** (0.114)
nb			-0.166 (0.096)	-0.142 (0.097)
que			-0.121* (0.050)	-0.089 (0.052)
man			0.139 (0.149)	0.133 (0.149)
sask			0.185 (0.134)	0.182 (0.134)
alta			-0.092 (0.101)	-0.095 (0.101)
bc			0.135* (0.066)	0.136* (0.067)
terr			0.186 (0.251)	0.325 (0.261)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95.

Table 20
Cox Partial Likelihood Determinants of UI Claim Spells
Full Sample

Model : # obs : Depvar:	1 1350 uiclaim	2 1897 uiclaim	3 5083 uiclaim
coep	1.215** (0.135)	1.696** (0.103)	1.249** (0.066)
localu	-0.010 (0.011)	-0.011 (0.008)	0.001 (0.006)
male	0.215** (0.080)	0.211** (0.059)	0.178** (0.041)
r_ft	-0.233* (0.112)	-0.123 (0.075)	-0.179** (0.051)
marr	-0.037 (0.081)	0.10 (0.063)	0.048 (0.043)
age	-0.033 (0.033)	-0.035 (0.025)	-0.034* (0.016)
age2	0.001 (0.000)	0.000 (0.000)	0.000** (0.000)
vismin	-0.107 (0.117)	0.001 (0.079)	0.043 (0.053)
leelem	-0.076 (0.209)	-0.130 (0.109)	-0.012 (0.078)
s_hs	0.027 (0.117)	-0.003 (0.082)	-0.015 (0.056)
trade	-0.261 (0.201)	0.015 (0.144)	0.013 (0.098)
scoll	-0.037 (0.137)	0.141 (0.141)	-0.005 (0.112)
coll	-0.053 (0.113)	0.021 (0.101)	-0.026 (0.065)
s_univ	0.427* (0.196)	-0.035 (0.127)	0.189 (0.097)
gugrad	0.028 (0.127)	0.258** (0.100)	0.116 (0.064)
nfld	-0.343 (0.248)	-0.301* (0.137)	-0.355** (0.103)
pei	0.366 (0.479)	-0.097 (0.164)	-0.012 (0.131)
ns	-0.489 (0.280)	-0.288* (0.142)	-0.420** (0.117)
nb	0.004 (0.252)	-0.130 (0.112)	-0.163 (0.097)
que	-0.10 (0.101)	-0.197* (0.083)	-0.105* (0.053)
man	0.002 (0.269)	-0.117 (0.233)	0.088 (0.151)
sask	-0.161 (0.275)	0.436 (0.240)	0.161 (0.135)
alta	-0.022 (0.132)	-0.015 (0.141)	-0.097 (0.105)
bc	0.007 (0.128)	0.026 (0.110)	0.135* (0.067)
terr	0.092 (0.349)	-0.039 (0.470)	0.229 (0.272)
elgwks			-0.013** (0.003)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; and model 3 studies the effects of weeks of UI eligibility for the full sample.

Table 21
Exponential Duration Model of Determinants of UI Claim Spells
Full Sample

Model : # obs : Depvar:	1 5713 uiclaim	2 5713 uiclaim	3 5083 uiclaim	4 5083 uiclaim
coep	0.604** (0.033)	0.591** (0.033)	0.599** (0.033)	0.590** (0.034)
localu		-0.009* (0.005)		-0.006 (0.005)
male			0.128** (0.034)	0.127** (0.034)
r_ft			-0.116** (0.041)	-0.118** (0.041)
marr			0.055 (0.035)	0.055 (0.035)
age			-0.029* (0.013)	-0.029* (0.013)
age2			0.000** (0.000)	0.000** (0.000)
vism in			0.015 (0.044)	0.015 (0.044)
leelem			-0.010 (0.062)	-0.010 (0.062)
s_hs			-0.025 (0.048)	-0.023 (0.048)
trade			0.034 (0.080)	0.033 (0.079)
scoll			0.006 (0.083)	0.007 (0.083)
coll			0.002 (0.052)	0.001 (0.052)
s_univ			0.134 (0.078)	0.134 (0.078)
gugrad			0.050 (0.051)	0.049 (0.051)
nfld			-0.251** (0.075)	-0.211* (0.083)
pei			-0.005 (0.103)	0.025 (0.107)
ns			-0.309** (0.097)	-0.289** (0.098)
nb			-0.098 (0.081)	-0.085 (0.082)
que			-0.058 (0.043)	-0.041 (0.045)
man			0.131 (0.125)	0.127 (0.126)
sask			0.129 (0.106)	0.127 (0.106)
alta			-0.031 (0.078)	-0.033 (0.078)
bc			0.126* (0.054)	0.127* (0.054)
terr			-0.012 (0.272)	0.066 (0.276)

Notes Standard errors in parentheses with p<0.05 = *, p<0.01 = **.Based on weighted sample from COEP93 and COEP95. All models include a constant term.

Table 22
Exponential Duration Model of Determinants of UI Claim Spells
Full sample and subsamples

Model : # obs : Depvar:	1 1350 uiclaim	2 1897 uiclaim	3 5083 uiclaim
coep	0.397** (0.067)	0.741** (0.046)	0.551** (0.041)
localu	-0.004 (0.010)	-0.005* (0.006)	-0.001 (0.005)
male	0.133* (0.066)	0.175** (0.043)	0.129** (0.034)
r_ft	-0.142 (0.097)	-0.082 (0.054)	-0.110** (0.042)
marr	-0.017 (0.067)	0.089 (0.046)	0.058 (0.035)
age	-0.028 (0.028)	-0.024 (0.018)	-0.028* (0.013)
age2	0.000 (0.000)	0.000 (0.000)	0.000** (0.000)
vismin	-0.130 (0.099)	-0.002 (0.062)	0.018 (0.044)
leelem	-0.109 (0.171)	-0.119 (0.084)	-0.016 (0.062)
s_hs	0.021 (0.095)	-0.024 (0.062)	-0.025 (0.048)
trade	-0.242 (0.178)	0.058 (0.117)	0.035 (0.079)
scoll	-0.056 (0.117)	0.079 (0.095)	0.008 (0.084)
coll	-0.009 (0.099)	-0.007 (0.075)	0.002 (0.052)
s_univ	0.379* (0.159)	-0.079 (0.095)	0.132 (0.078)
gugrad	-0.011 (0.105)	0.075 (0.071)	0.049 (0.051)
nfld	-0.357 (0.196)	-0.190 (0.097)	-0.242** (0.085)
pei	0.395 (0.414)	-0.170 (0.115)	0.001 (0.108)
ns	-0.453 (0.241)	-0.256* (0.114)	-0.307** (0.098)
nb	0.053 (0.215)	-0.035 (0.076)	-0.092 (0.082)
que	-0.059 (0.083)	-0.141* (0.061)	-0.047 (0.045)
man	0.039 (0.239)	-0.105 (0.188)	0.109 (0.126)
sask	-0.062 (0.184)	0.212 (0.20)	0.117 (0.106)
alta	0.018 (0.109)	0.001 (0.099)	-0.034 (0.079)
bc	0.012 (0.109)	0.034 (0.076)	0.126* (0.054)
terr	-0.321 (0.545)	-0.241 (0.438)	0.022 (0.281)
elgwks			-0.005* (0.002)

Notes Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; and model 3 studies the effects of weeks of UI eligibility for the full sample. All models include a constant term.

Table 23
Weibull Model of Determinants of UI Claim Spells
Full Sample

Model : # obs :	1 5713 uiclaim	2 5713 uiclaim	3 5083 uiclaim	4 5083 uiclaim
coep	1.052** (0.048)	1.037** (0.049)	1.102** (0.049)	1.086** (0.050)
const	-6.659** (0.173)	-6.527** (0.182)	-6.242** (0.451)	-6.160** (0.454)
localu		-0.012* (0.005)		-0.010 (0.006)
male			0.164** (0.041)	0.162** (0.041)
r_ft			-0.185** (0.050)	-0.187** (0.051)
marr			0.045 (0.042)	0.045 (0.042)
age			-0.037* (0.016)	-0.036* (0.016)
age2			0.000** (0.000)	0.000** (0.000)
vismin			0.021 (0.052)	0.019 (0.052)
leelem			-0.006 (0.076)	-0.004 (0.076)
s_hs			-0.020 (0.055)	-0.017 (0.055)
trade			0.010 (0.101)	0.011 (0.10)
scoll			-0.012 (0.108)	-0.010 (0.108)
coll			-0.004 (0.062)	-0.005 (0.062)
s_univ			0.192* (0.097)	0.195* (0.097)
gugrad			0.101 (0.064)	0.101 (0.064)
nfld			-0.348** (0.089)	-0.285** (0.099)
pei			-0.036 (0.114)	0.015 (0.118)
ns			-0.368** (0.109)	-0.335** (0.111)
nb			-0.177 (0.098)	-0.155 (0.098)
que			-0.104* (0.050)	-0.077 (0.052)
man			0.140 (0.147)	0.134 (0.147)
sask			0.123 (0.137)	0.119 (0.137)
alta			-0.081 (0.104)	-0.085 (0.104)
bc			0.132* (0.065)	0.133* (0.065)
terr			0.169 (0.256)	0.290 (0.265)
ln q	0.550** (0.025)	0.550** (0.025)	0.558** (0.025)	0.589** (0.025)

Notes Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. The ln q parameter is the estimated shape of the baseline hazard for the Weibull distribution, with ln $q < 0$ implying a decreasing hazard.

Table 24
Weibull Model of Determinants of UI Claim Spells
Full sample and subsamples

Model :	1	2	3
# obs :	1350	1897	5083
Depvar:	uiclaim	uiclaim	uiclaim
coep	0.858**	1.379**	1.018**
	(0.086)	(0.071)	(0.056)
localu	-0.008	-0.010	0.000
	(0.011)	(0.008)	(0.006)
male	0.194*	0.210**	0.168**
	(0.078)	(0.057)	(0.041)
r_ft	-0.215	-0.133	-0.174**
	(0.112)	(0.074)	(0.051)
marr	-0.040	0.098	0.050
	(0.078)	(0.062)	(0.043)
age	-0.039	-0.035	-0.035*
	(0.032)	(0.024)	(0.016)
age2	0.001	0.000	0.000**
	(0.000)	(0.000)	(0.000)
vismin	-0.158	0.000	0.026
	(0.115)	(0.080)	(0.052)
leelem	-0.108	-0.146	-0.016
	(0.198)	(0.107)	(0.076)
s_hs	-0.025	-0.010	-0.019
	(0.113)	(0.081)	(0.055)
trade	-0.318	0.057	0.014
	(0.208)	(0.144)	(0.10)
scoll	-0.064	0.132	-0.010
	(0.134)	(0.134)	(0.113)
coll	-0.011	-0.013	-0.004
	(0.113)	(0.096)	(0.062)
s_univ	0.472*	-0.064	0.188
	(0.198)	(0.124)	(0.098)
gugrad	0.019	0.197*	0.102
	(0.124)	(0.099)	(0.064)
nfld	-0.411	-0.305*	-0.346**
	(0.227)	(0.132)	(0.101)
pei	0.388	-0.217	-0.031
	(0.459)	(0.143)	(0.121)
ns	-0.469	-0.313*	-0.371**
	(0.276)	(0.141)	(0.112)
nb	-0.021	-0.116	-0.171
	(0.259)	(0.106)	(0.098)
que	-0.094	-0.211*	-0.090
	(0.097)	(0.083)	(0.053)
man	0.033	-0.136	0.099
	(0.270)	(0.234)	(0.149)
sask	-0.202	0.338	0.103
	(0.254)	(0.248)	(0.138)
alta	-0.009	0.003	-0.087
	(0.131)	(0.134)	(0.107)
bc	-0.010	0.031	0.132*
	(0.126)	(0.107)	(0.065)
terr	-0.029	-0.097	0.214
	(0.366)	(0.476)	(0.272)
const	-6.167**	-6.903**	-5.875**
	(0.891)	(0.715)	(0.454)
elgwks			-0.010**
			(0.003)
ln q	0.562**	0.705**	0.592**
	(0.043)	(0.033)	(0.025)

Notes Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; and model 3 studies the effects of weeks of UI eligibility for the full sample. The ln q parameter is the estimated shape of the baseline hazard for the Weibull distribution,with ln q < 0 implying a decreasing hazard.

5. *Further Results: Joint Models of Unemployment and UI Receipt*

I investigate alternative ways of estimating the determinants of duration with allowance for various time-varying UI effects.

Although the major results in the preceding two Sections appear quite robust, they are not immune to objection. One potential difficulty with the analysis of unemployment spells reported in Section 3 is that, although there was some investigation of the role played by UI eligibility and by the length of a person's entitlement to UI, these factors were constrained to affect the hazard proportionally. This was true of both the Cox partial likelihood models and the two parametric specifications. However, it may be more natural to envisage such effects as being particularly pronounced in the months and weeks leading up to exhaustion of UI entitlement, so that their effect might rather be to shift the hazard in these periods, or to tilt the overall hazard, relative to the earlier models.[14] Moreover, job finding behaviour might be expected to alter significantly once the unemployment spell is not longer covered by UI (as in Meyer 1990). Relatedly, the analysis that addresses only benefit durations, as in Section 4 above, necessarily fails to capture uncovered spells of unemployment, either because of initial lack of eligibility or because of UI exhaustion. The labour market effects of a change such as C-17 likely extend beyond the durations of UI receipt and, as such, analysis must extend to such overall unemployment and jobless durations.

The purpose of this section is to report the results from two broad sets of models. First, I investigate alternative ways of estimating the determinants of duration with allowance for various time-varying UI effects. Second, as a further check on the earlier results, I also report results from an alternative class of models where the hazard is non-parametrically estimated jointly with the behavioural parameters in a framework due to Prentice and Gloeckler (1978) and extended by Meyer (1990), here termed the PGM model.

Joint models of unemployment and UI receipt

Results from two models that incorporate time-varying UI effects are presented. In the simpler of the two, the base model from Section 3 is augmented by an uninsured dummy variable that takes the value 1 in a period when UI is not received and 0 otherwise. In the alternative specification, three benefit

[14] Compare the related analysis of hazards that alter with the expiration of a period of advance notice, as in Jones and Kuhn 1995.

... the results from estimating the determinants of unemployment spells with allowance for an uninsured phase of the unemployment spell clearly echo the earlier findings that the effect of C-17 was significantly to shorten durations.

exhaustion effects are studied, using (time-varying) dummy variables that take the value 1 at 1-3, 4-6 and 7-9 weeks until expiry of UI coverage, respectively, and 0 otherwise, to assess the extent to which jobs are found in the weeks prior to the ending of entitlement.

Tables 25-30 give the various results of the insured/uninsured unemployment models, all estimated in the Cox partial likelihood framework, for the full sample and for the VQ/Dis and SW/Oth subsamples, analogous to the ordering in Tables 1-6 of Section 3. The full sample results in Table 25 do not depart greatly from the estimates in the absence of the time-varying coefficient, and the coep effect remains significantly positive and around 0.22 in the models with a full set of controls. The effect on the uninsured dummy variable itself is insignificantly different from zero, although the point estimate is everywhere negative. In Table 26, Model 1 is the only exception in that a significant coep effect is not found for persons not expecting recall. Again, no significant effect of uninsured unemployment on the hazard emerges in those results.

The breakdown by separation reason is given in Tables 27-30. For the VQ/D is group, which represents a fairly small sample overall, the uninsured effect is almost always negative, but the standard error is as large as the point estimate. In contrast, for the SW/Oth group, the Table 29 results give small and positive coefficients on the uninsured variable. However, in view of the insignificance of the estimates, I would not want to make too much of this distinction. With regard to the coep variable, the base models in Tables 27 and 29 yield significant and positive effects which are numerically larger for the VQ/D is group than for the SW/Oth sample. In Table 30, the one point of note is that, for the subsample not expecting recall to the former job, the coep effect is significantly negative at -0.226. This is the only such result in the whole set, however, and I do not attach great importance to this exception. Rather, the results from estimating the determinants of unemployment spells with allowance for an uninsured phase of the unemployment spell clearly echo the earlier findings that the effect of C-17 was significantly to shorten durations. Finally, it is worth noting that the only robust demographic determinant in these results is sex, with men having a significantly higher hazard and hence shorter duration. Although these are some other significant coefficients dotted around Tables 25-30, the overall pattern of the results does not support any other strong conclusions

A more disaggregated breakdown of time-varying UI effects is reported in Tables 31-34 for the full sample and the SW/Oth group.[15] For the full sample, there is only a small effect of adding the three benefit exhaustion dummy variables on the estimated coep effect. In Table 31 Model 4, for instance, the point

[15] Estimates of these particular models for the VQ/Dis sample ran into problems of sample size and collinearity and are not reported here. In each case, however, when the data were suitable aggregated (e.g., using a variable such as Atlantic region, instead of provincial dummy variables), the VQ/Dis results on the coep effect were comparable to those reported in the paper.

estimate is 0.208, compared with the 0.206 figure obtained in the same model in Table 1. Similarly, the Table 33 results for the SW/Oth group give estimated coep effects of between 0.25 and 0.35. The benefit expiry variables themselves are rather puzzling, with insignificantly positive effects at 7-9 and 4-6 weeks from expiration being replaced by a negative coefficient at 1-3 weeks in Models 2-4 of Table 31. This pattern also occurs, though less pronouncedly, in the Table 32 specifications, and for the SW/Oth subsample in Tables 33 and 34. Since this sign is contrary to what might be expected, and to some related findings in the literature (e.g., Meyer's 1990 analysis of exhaustion effects), these models clearly merit further investigation.[16] Nonetheless, the clearly positive and significant effect of the coep variable endures throughout these four tables.

PGM models of unemployment durations

The final check on the results reported here is to estimate a variety of alternative models using alternative duration specifications in a PGM framework after Prentice and Gloeckler (1978) and Meyer (1990). These models are estimated for the full sample and the VQ/Dis and the SW/Oth groups and incorporate three alternative approaches to duration. First, akin to the Weibull-type models,[17] we introduce log duration in addition to the coep variable. Second, we use a fourth-order polynomial in duration as a flexible means of capturing non-monotonicity. Third, we estimate a fully non-parametric model where each duration in the grid (out to 55 weeks) has its own dummy variable, thereby permitting any pattern to the estimated duration effects.

The results are given in Tables 35-37. For the full sample, the effects are quite consistent across the three duration specifications, with significant log duration effects, significant duration polynomial effects, and a (jointly) significant set of duration dummies. In each case, we estimate a coep effect that is positive and significant, around 0.35 in the absence of other controls, and around 0.26 when those other explanatory variables are added. Moreover, the estimated effects of other variables are quite consistent across models 2, 4 and 6 of Table 35, something that also holds up by and large for Tables 36 and 37. The estimated coep effects are larger for the VQ/Dis group (Table 36) than for the SW/Oth sample, but in all cases the effect is positive and significant. Overall, these results from the PGM method of estimation reinforce our earlier findings and suggest that the conclusions on the effects of C-17 were quite robust.

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[16] One point to bear in mind is that relatively few spells reach the point of benefit exhaustion, as Figures 1-3 reveal. In this respect, these data are similar to those analyzed by Meyer (1990). See also Corak and Jones (1995) for related analysis in the Canadian case.

[17] Weibull models as analyzed above can equally be thought of using a log relative hazard parameterization whereby, scaled by q using our earlier notation, so that the earlier coefficient $\beta=-q\hat{a}^*$, we have $\ln(t) = \beta^*X + e$, and e has an extreme value distribution. Thus, β^*X estimates the logarithm of the duration.

Table 25
Cox Duration Model of Determinants of Insured and Uninsured Phases of Unemployment
Full Sample

Model : # obs : Depvar:	1 9294 uspell	2 9294 uspell	3 8009 uspell	4 8009 uspell
coep	0.485** (0.040)	0.498** (0.041)	0.214** (0.042)	0.225** (0.044)
unins	-0.078 (0.090)	-0.076 (0.090)	-0.047 (0.092)	-0.045 (0.092)
localu		0.010 (0.006)		0.007 (0.007)
male			0.177** (0.041)	0.176** (0.041)
r_ft			0.024 (0.057)	0.025 (0.057)
marr			0.053 (0.044)	0.052 (0.044)
age			0.005 (0.014)	0.004 (0.014)
age2			0.000 (0.000)	0.000 (0.000)
vismin			-0.023 (0.050)	-0.023 (0.050)
leelem			0.136 (0.088)	0.137 (0.087)
s_hs			-0.007 (0.060)	-0.009 (0.060)
trade			0.110 (0.092)	0.108 (0.092)
scoll			0.089 (0.075)	0.087 (0.075)
coll			0.064 (0.074)	0.067 (0.073)
s_univ			0.013 (0.090)	0.011 (0.090)
gugrad			0.073 (0.062)	0.074 (0.062)
nfld			0.053 (0.120)	0.007 (0.127)
pei			0.269 (0.230)	0.231 (0.234)
ns			-0.138 (0.107)	-0.160 (0.109)
nb			0.103 (0.133)	0.088 (0.133)
que			0.085 (0.053)	0.063 (0.055)
man			0.262* (0.123)	0.266* (0.123)
sask			0.148 (0.117)	0.151 (0.116)
alta			-0.002 (0.080)	-0.001 (0.080)
bc			0.075 (0.062)	0.074 (0.062)
terr			0.105 (0.515)	0.002 (0.529)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. Unins is a time-varying covariate that takes the value 1 in the phase of the unemployment spell when UI coverage has been exhausted, and 0 otherwise.

Table 26
Cox Duration Model of Determinants of Insured and Uninsured Phases of Unemployment
Full sample and subsamples

Model :	1	2	3
# obs :	2529	2818	6916
Depvar:	uspell	uspell	uspell
coep	0.018	0.430**	0.238**
	(0.067)	(0.069)	(0.047)
unins	0.041	0.133	-0.011
	(0.146)	(0.134)	(0.10)
localu	0.012	0.005	0.009
	(0.011)	(0.009)	(0.008)
male	0.118	0.237**	0.209**
	(0.065)	(0.061)	(0.044)
r_ft	0.186	0.066	0.063
	(0.096)	(0.085)	(0.062)
marr	0.132	0.026	0.065
	(0.071)	(0.064)	(0.047)
age	0.022	0.014	0.016
	(0.026)	(0.022)	(0.017)
age2	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
vismin	-0.073	-0.154*	-0.036
	(0.087)	(0.078)	(0.056)
leelem	-0.058	0.003	0.095
	(0.204)	(0.120)	(0.094)
s_hs	-0.021	0.051	-0.057
	(0.098)	(0.084)	(0.065)
trade	-0.193	0.144	0.052
	(0.178)	(0.150)	(0.098)
scoll	-0.003	0.128	0.080
	(0.120)	(0.119)	(0.082)
coll	0.117	0.023	0.008
	(0.106)	(0.106)	(0.079)
s_univ	0.129	-0.260	-0.012
	(0.134)	(0.153)	(0.098)
gugrad	0.065	-0.062	0.051
	(0.094)	(0.098)	(0.066)
nfld	-0.285	0.106	-0.088
	(0.257)	(0.153)	(0.135)
pei	0.345	0.050	0.138
	(0.264)	(0.356)	(0.257)
ns	-0.365	-0.199	-0.224
	(0.215)	(0.159)	(0.119)
nb	-0.063	0.106	0.059
	(0.195)	(0.197)	(0.139)
que	0.047	-0.080	0.027
	(0.089)	(0.082)	(0.060)
man	0.281	0.061	0.236
	(0.174)	(0.212)	(0.134)
sask	0.396**	0.060	0.110
	(0.148)	(0.20)	(0.118)
alta	0.153	-0.060	-0.065
	(0.113)	(0.132)	(0.087)
bc	-0.044	0.004	0.044
	(0.101)	(0.10)	(0.068)
terr	-0.345	-0.786	-0.477
	(0.864)	(0.830)	(0.660)
ui3of5			0.125**
			(0.045)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. Unins is a time-varying covariate that takes the value 1 in the phase of the unemployment spell when UI coverage has been exhausted, and 0 otherwise. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; and model 3 studies the effects of weeks of UI eligibility for the full sample.

Table 27
Cox Duration Model of Determinants of Insured and Uninsured Phases of Unemployment
VQ/Dis Sample

Model : # obs : Depvar:	1 1834 uspell	2 1834 uspell	3 1395 uspell	4 1395 uspell
coep	0.719** (0.082)	0.764** (0.087)	0.277** (0.092)	0.357** (0.099)
unins	-0.299 (0.218)	-0.298 (0.219)	-0.220 (0.224)	-0.215 (0.226)
localu		0.023 (0.013)		0.044** (0.017)
male			0.226* (0.092)	0.215* (0.091)
r_ft			0.243* (0.113)	0.251* (0.113)
marr			0.149 (0.106)	0.129 (0.104)
age			0.001 (0.035)	-0.001 (0.036)
age2			0.000 (0.000)	0.000 (0.000)
vismin			0.080 (0.105)	0.064 (0.107)
leelem			0.307 (0.407)	0.248 (0.425)
s_hs			-0.20 (0.136)	-0.220 (0.137)
trade			-0.197 (0.254)	-0.20 (0.253)
scoll			0.005 (0.151)	-0.013 (0.153)
coll			-0.154 (0.162)	-0.121 (0.154)
s_univ			-0.061 (0.150)	-0.087 (0.148)
gugrad			-0.027 (0.140)	-0.009 (0.140)
nfld			0.058 (0.387)	0.035 (0.326)
pei			1.075** (0.270)	0.879** (0.289)
ns			0.232 (0.207)	0.128 (0.216)
nb			0.446 (0.287)	0.397 (0.270)
que			0.150 (0.122)	0.022 (0.129)
man			-0.081 (0.323)	-0.087 (0.320)
sask			-0.124 (0.255)	-0.084 (0.254)
alta			-0.003 (0.154)	0.000 (0.154)
bc			-0.008 (0.123)	-0.029 (0.123)
terr			-0.475 (0.953)	-1.126 (0.972)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. Unins is a time-varying covariate that takes the value 1 in the phase of the unemployment spell when UI coverage has been exhausted, and 0 otherwise.

Table 28
Cox Duration Model of Determinants of Insured and Uninsured Phases of Unemployment
VQ/Dis sample and subsamples

Model : # obs : Depvar:	1 580 uspell	2 125 uspell	3 1136 uspell
coep	0.428* (0.183)	-0.209 (0.344)	0.432** (0.110)
unins	0.023 (0.270)	-0.166 (0.494)	-0.175 (0.250)
localu	0.047 (0.026)	0.072 (0.054)	0.048** (0.018)
male	0.152 (0.119)	-0.175 (0.267)	0.322** (0.106)
r_ft	0.582** (0.152)	0.344 (0.325)	0.292* (0.133)
marr	0.203 (0.130)	-0.352 (0.330)	0.208 (0.115)
age	0.028 (0.048)	0.185 (0.178)	0.025 (0.056)
age2	0.000 (0.000)	-0.002 (0.001)	0.000 (0.000)
vismin	-0.059 (0.139)	-0.886 (0.484)	-0.016 (0.123)
leelem	0.218 (0.198)	-0.878 (1.385)	0.080 (0.472)
s_hs	-0.242 (0.179)	0.326 (0.317)	-0.288 (0.159)
trade	-0.559 (0.453)	0.476 (0.850)	-0.319 (0.287)
scoll	-0.234 (0.182)	0.797* (0.382)	-0.048 (0.176)
coll	-0.104 (0.167)	-0.462 (0.595)	-0.270 (0.168)
s_univ	-0.262 (0.255)	0.834* (0.375)	-0.137 (0.173)
gugrad	-0.105 (0.166)	-0.553 (0.542)	-0.097 (0.154)
nfld	-1.118 (1.151)	-0.428 (0.938)	-0.060 (0.340)
ns	0.304 (0.472)	-0.617 (0.583)	0.034 (0.268)
nb	0.067 (0.293)	0.270 (1.315)	0.340 (0.292)
que	-0.050 (0.156)	-0.536 (0.391)	-0.010 (0.143)
man	0.094 (0.358)	-0.706 (1.065)	-0.099 (0.355)
sask	0.310 (0.240)	-0.442 (0.520)	-0.092 (0.270)
alta	0.044 (0.188)	-0.191 (0.457)	-0.075 (0.171)
bc	-0.461* (0.188)	-1.274** (0.428)	-0.149 (0.140)
terr	-1.446	-- (1.315)	-38.352** (1.065)
pei	--	1.381 (0.739)	0.913** (0.296)
ui3of5			0.081 (0.125)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = **. — means that a variable was dropped owing to collinearity. Based on weighted sample from COEP93 and COEP95. Unins is a time-varying covariate that takes the value 1 in the phase of the unemployment spell when UI coverage has been exhausted, and 0 otherwise. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; and model 3 studies the effects of weeks of UI eligibility for the full sample.

Table 29
Cox Duration Model of Determinants of Insured and Uninsured Phases of Unemployment
SW/Oth Sample

Model :	1	2	3	4
# obs :	6610	6610	6132	6132
Depvar:	uspell	uspell	uspell	uspell
coep	0.349**	0.358**	0.190**	0.190**
	(0.046)	(0.047)	(0.048)	(0.049)
unins	0.059	0.061	0.010	0.010
	(0.098)	(0.098)	(0.10)	(0.10)
localu		0.007		0.000
		(0.006)		(0.007)
male			0.144**	0.144**
			(0.045)	(0.045)
r_ft			-0.048	-0.048
			(0.067)	(0.067)
marr			0.035	0.035
			(0.047)	(0.047)
age			0.020	0.020
			(0.018)	(0.018)
age2			0.000	0.000
			(0.000)	(0.000)
vismin			-0.071	-0.071
			(0.058)	(0.058)
leelem			0.130	0.130
			(0.098)	(0.098)
s_hs			0.039	0.039
			(0.066)	(0.066)
trade			0.185	0.185
			(0.098)	(0.098)
scoll			0.077	0.077
			(0.083)	(0.083)
coll			0.157*	0.157*
			(0.076)	(0.076)
s_univ			0.031	0.031
			(0.114)	(0.114)
gugrad			0.081	0.081
			(0.072)	(0.072)
nfld			0.068	0.069
			(0.129)	(0.139)
pei			0.195	0.196
			(0.255)	(0.257)
ns			-0.236	-0.235
			(0.131)	(0.134)
nb			0.077	0.078
			(0.150)	(0.151)
que			0.073	0.073
			(0.058)	(0.061)
man			0.451**	0.451**
			(0.122)	(0.122)
sask			0.230	0.230
			(0.119)	(0.119)
alta			-0.005	-0.005
			(0.092)	(0.092)
bc			0.134	0.134
			(0.071)	(0.071)
terr			0.467	0.469
			(0.512)	(0.519)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. Unins is a time-varying covariate that takes the value 1 in the phase of the unemployment spell when UI coverage has been exhausted, and 0 otherwise.

Table 30
Cox Duration Model of Determinants of Insured and Uninsured Phases of Unemployment
SW/Oth sample and subsamples

Model :	1	2	3
# obs :	898	2535	5352
Depvar:	uspell	uspell	uspell
coep	-0.226**	0.501**	0.183**
	(0.082)	(0.073)	(0.053)
unins	0.079	0.150	0.030
	(0.170)	(0.139)	(0.108)
localu	0.006	0.009	0.002
	(0.013)	(0.010)	(0.007)
male	0.039	0.246**	0.136**
	(0.079)	(0.064)	(0.047)
r_ft	-0.043	0.077	-0.004
	(0.120)	(0.090)	(0.071)
marr	0.156	0.053	0.041
	(0.084)	(0.067)	(0.049)
age	0.037	0.004	0.031
	(0.034)	(0.023)	(0.020)
age2	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
vismin	-0.125	-0.160	-0.053
	(0.105)	(0.083)	(0.063)
leelem	0.013	0.053	0.110
	(0.247)	(0.126)	(0.103)
s_hs	0.197	0.011	-0.014
	(0.118)	(0.091)	(0.070)
trade	-0.007	0.117	0.128
	(0.196)	(0.160)	(0.104)
scoll	0.066	0.036*	0.081
	(0.164)	(0.125)	(0.088)
coll	0.329**	0.054	0.124
	(0.125)	(0.107)	(0.081)
s_univ	0.504**	-0.290*	0.006
	(0.175)	(0.167)	(0.123)
gugrad	0.194	-0.053	0.058
	(0.114)	(0.102)	(0.076)
nfld	-0.009	0.018	-0.038
	(0.298)	(0.162)	(0.148)
pei	0.326	-0.141	0.086
	(0.336)	(0.386)	(0.280)
ns	-0.473	-0.181	-0.300*
	(0.270)	(0.172)	(0.145)
nb	0.024	0.151	0.033
	(0.249)	(0.214)	(0.155)
que	0.147	-0.143	0.035
	(0.110)	(0.087)	(0.066)
man	0.523**	0.190	0.415**
	(0.170)	(0.207)	(0.134)
sask	0.302	0.071	0.183
	(0.190)	(0.210)	(0.119)
alta	0.262	-0.112	-0.066
	(0.135)	(0.140)	(0.098)
bc	0.186	0.012	0.126
	(0.120)	(0.107)	(0.078)
terr	0.708	-0.899	0.262
	(0.665)	(0.844)	(0.592)
ui3of5			0.169**
			(0.049)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. Unins is a time-varying covariate that takes the value 1 in the phase of the unemployment spell when UI coverage has been exhausted, and 0 otherwise. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; and model 3 studies the effects of weeks of UI eligibility for the full sample.

Table 31
Cox Model of Determinants of Unemployment Duration:
Analysis of Benefit Exhaustion Effects
Full Sample

Model : Depvar:	1 uspell	2 uspell	3 uspell	4 uspell
coep	0.478** (0.039)	0.292** (0.047)	0.193** (0.047)	0.208** (0.048)
ben13		-0.354** (0.135)	-0.428** (0.138)	-0.427** (0.138)
ben46		0.023 (0.113)	0.102 (0.117)	0.103 (0.117)
ben79		0.097 (0.10)	0.10 (0.106)	0.100 (0.106)
localu		0.010 (0.006)		0.010 (0.007)
male			0.134** (0.046)	0.135** (0.046)
r_ft			-0.167** (0.061)	-0.164** (0.061)
marr			0.059 (0.048)	0.057 (0.048)
age			0.012 (0.015)	0.011 (0.015)
age2			0.000 (0.000)	0.000 (0.000)
vismin			-0.031 (0.059)	-0.030 (0.059)
leelem			0.093 (0.097)	0.092 (0.097)
s_hs			0.008 (0.069)	0.005 (0.069)
trade			0.065 (0.107)	0.066 (0.106)
scoll			-0.088 (0.086)	-0.089 (0.086)
coll			0.033 (0.075)	0.035 (0.075)
s_univ			-0.103 (0.105)	-0.103 (0.105)
gugrad			-0.078 (0.072)	-0.078 (0.072)
nfld			0.082 (0.131)	0.022 (0.136)
pei			0.563** (0.193)	0.516** (0.198)
ns			-0.229 (0.123)	-0.262* (0.127)
nb			0.234 (0.128)	0.211 (0.129)
que			0.136* (0.061)	0.110 (0.065)
man			0.219 (0.151)	0.229 (0.152)
sask			0.246* (0.116)	0.251* (0.116)
alta			0.034 (0.094)	0.037 (0.094)
bc			0.209** (0.074)	0.208** (0.074)
terr			0.223 (0.475)	0.086 (0.490)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. Ben13, Ben46 and Ben 79 are time-varying covariates that respectively take the value 1 in the phase of the unemployment spell when UI benefit exhaustion is 1-3, 4-6 and 7-9 weeks away, and 0 otherwise.

Table 32
Cox Model of Determinants of Unemployment Duration:
Analysis of Benefit Exhaustion Effects
Full sample and subsamples

Model : Depvar:	1 uspell	2 uspell	3 uspell
coep	-0.160* (0.081)	0.434** (0.067)	0.207** (0.051)
ben13	-0.353 (0.284)	-0.281 (0.202)	-0.600** (0.155)
ben46	0.367 (0.202)	-0.595** (0.204)	0.023 (0.134)
ben79	0.095 (0.213)	0.132 (0.143)	0.117 (0.110)
localu	0.013 (0.012)	0.006 (0.010)	0.008 (0.007)
male	0.018 (0.084)	0.304** (0.064)	0.155** (0.050)
r_ft	-0.106 (0.118)	-0.114 (0.082)	-0.143* (0.066)
marr	0.010 (0.086)	0.066 (0.069)	0.075 (0.051)
age	-0.004 (0.032)	0.040 (0.022)	0.011 (0.019)
age2	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
vismin	-0.156 (0.117)	-0.075 (0.087)	-0.058 (0.067)
leelem	0.037 (0.242)	-0.143 (0.126)	0.074 (0.106)
s_hs	-0.003 (0.123)	-0.052 (0.090)	-0.016 (0.075)
trade	-0.247 (0.226)	0.206 (0.147)	0.065 (0.115)
scoll	-0.076 (0.144)	-0.096 (0.132)	-0.080 (0.098)
coll	0.134 (0.125)	-0.098 (0.118)	0.034 (0.079)
s_univ	0.137 (0.183)	-0.284 (0.151)	-0.104 (0.109)
gugrad	-0.043 (0.127)	-0.230* (0.108)	-0.068 (0.077)
nfld	-0.082 (0.248)	0.157 (0.188)	-0.081 (0.142)
pei	0.414 (0.331)	0.403 (0.294)	0.430* (0.214)
ns	-0.624* (0.289)	-0.268 (0.171)	-0.327* (0.136)
nb	0.055 (0.230)	0.377** (0.134)	0.213 (0.124)
que	-0.020 0.110)	0.003 (0.089)	0.053 (0.070)
man	0.295 (0.287)	0.023 (0.254)	0.088 (0.159)
sask	0.376 (0.243)	0.233 (0.197)	0.157 (0.117)
alta	0.088 (0.146)	0.091 (0.143)	-0.027 (0.105)
bc	-0.011 (0.125)	0.089 (0.123)	0.144 (0.083)
terr	0.137 (0.638)	-0.666 (0.838)	-0.418 (0.617)
ui3of5			0.214** (0.051)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. Ben13, Ben46 and Ben 79 are time-varying covariates that respectively take the value 1 in the phase of the unemployment spell when UI benefit exhaustion is 1-3, 4-6 and 7-9 weeks away, and 0 otherwise. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; and model 3 studies the effects of weeks of UI eligibility for the full sample.

Table 33
Cox Model of Determinants of Unemployment Duration:
Analysis of Benefit Exhaustion Effects
SW/Oth Sample

Model : Depvar:	1 uspell	2 uspell	3 uspell	4 uspell
coep	0.354** (0.045)	0.305** (0.049)	0.254** (0.051)	0.269** (0.051)
ben13		-0.230 (0.144)	-0.305* (0.147)	0.305* (0.147)
ben46		0.013 (0.131)	0.072 (0.133)	0.072 (0.133)
ben79		0.245* (0.108)	0.214 (0.112)	0.214 (0.112)
localu		0.008 (0.006)		0.010 (0.007)
male			0.098* (0.047)	0.099* (0.047)
r_ft			-0.172** (0.065)	-0.170** (0.064)
marr			0.057 (0.049)	0.057 (0.049)
age			0.027 (0.017)	0.027 (0.017)
age2			0.000 (0.000)	0.000 (0.000)
vismin			-0.052 (0.064)	-0.051 (0.064)
leelem			0.014 (0.101)	0.012 (0.101)
s_hs			-0.029 (0.067)	-0.030 (0.067)
trade			0.047 (0.109)	0.047 (0.109)
scoll			-0.084 (0.084)	-0.085 (0.084)
coll			0.059 (0.081)	0.060 (0.081)
s_univ			-0.174 (0.122)	-0.174 (0.121)
gugrad			-0.104 (0.076)	-0.104 (0.076)
nfld			0.178 (0.131)	0.105 (0.139)
pei			0.442* (0.205)	0.392 (0.209)
ns			-0.233* (0.138)	-0.273 (0.143)
nb			0.149 (0.131)	0.125 (0.132)
que			0.127* (0.061)	0.10 (0.064)
man			0.357* (0.141)	0.368** (0.142)
sask			0.358** (0.122)	0.361** (0.122)
alta			0.040 (0.094)	0.042 (0.094)
bc			0.180* (0.081)	0.178* (0.081)
terr			0.099 (0.532)	-0.039 (0.547)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. Ben13, Ben46 and Ben79 are time-varying covariates that respectively take the value 1 in the phase of the unemployment spell when UI benefit exhaustion is 1-3, 4-6 and 7-9 weeks away, and 0 otherwise.

Table 34
Cox Model of Determinants of Unemployment Duration:
Analysis of Benefit Exhaustion Effects
SW/Oth sample and subsamples

Model : Depvar:	1 uspell	2 uspell	3 uspell
coep	-0.169 (0.092)	0.481** (0.069)	0.246** (0.055)
ben13	-0.322 (0.310)	-0.207 (0.207)	-0.489** (0.163)
ben46	0.301 (0.223)	-0.522* (0.204)	0.034 (0.151)
ben79	0.192 (0.224)	0.189 (0.146)	0.230* (0.115)
localu	0.006 (0.013)	0.011 (0.010)	0.008 (0.007)
male	-0.018 (0.090)	0.267** (0.066)	0.110* (0.049)
r_ft	-0.103 (0.130)	-0.103 (0.086)	-0.120 (0.069)
marr	0.015 (0.090)	0.106 (0.070)	0.075 (0.051)
age	0.040 (0.036)	0.021 (0.020)	0.031 (0.019)
age2	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
vismin	-0.197 (0.124)	-0.066 (0.091)	-0.066 (0.072)
leelem	-0.103 (0.263)	-0.136 (0.126)	-0.011 (0.108)
s_hs	-0.041 (0.131)	-0.129 (0.094)	-0.060 (0.072)
trade	-0.259 (0.203)	0.199 (0.148)	0.008 (0.117)
scoll	-0.099 (0.160)	-0.166 (0.136)	-0.061 (0.090)
coll	0.261* (0.131)	-0.102 (0.120)	0.069 (0.085)
s_univ	0.227 (0.214)	-0.307 (0.165)	-0.167 (0.129)
gugrad	0.027 (0.132)	-0.219* (0.108)	-0.093 (0.082)
nfld	0.256 (0.254)	0.030 (0.195)	0.010 (0.145)
pei	0.495 (0.357)	0.129 (0.309)	0.306 (0.226)
ns	-0.501 (0.297)	-0.313 (0.178)	-0.335* (0.151)
nb	-0.012 (0.245)	0.277* (0.126)	0.127 (0.127)
que	0.114 (0.116)	-0.091 (0.092)	0.049 (0.070)
man	0.567* (0.276)	0.124 (0.208)	0.242 (0.145)
sask	0.620* (0.243)	0.190 (0.204)	0.269* (0.124)
alta	0.170 (0.152)	-0.006 (0.153)	0.003 (0.10)
bc	0.025 (0.141)	0.031 (0.128)	0.110 (0.093)
terr	0.305 (0.661)	-0.811 (0.825)	-0.433 (0.624)
ui3of5			0.220** (0.051)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = **. Based on weighted sample from COEP93 and COEP95. Ben13, Ben46 and Ben 79 are time-varying covariates that respectively take the value 1 in the phase of the unemployment spell when UI benefit exhaustion is 1-3, 4-6 and 7-9 weeks away, and 0 otherwise. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; and model 3 studies the effects of weeks of UI eligibility for the full sample.

Table 35
PGM Semiparametric Hazard Model of Determinants of Unemployment Duration
Full Sample

Model : Depvar:	1 uspell	2 uspell	3 uspell	4 uspell	5 uspell	6 uspell
coep	0.362**	0.277**	0.345**	0.256**	0.352**	0.261**
	(0.023)	(0.024)	(0.023)	(0.024)	(0.023)	(0.024)
logdur	-0.048**	-0.098**				
	(0.010)	(0.011)				
male		0.187**		0.186**		0.185**
		(0.024)		(0.024)		(0.024)
r_ft		0.051		0.048		0.046
		(0.033)		(0.033)		(0.033)
marr		0.051*		0.050*		0.050*
		(0.025)		(0.025)		(0.025)
age		0.015		0.017*		0.017*
		(0.008)		(0.008)		(0.008)
age2		0.000		0.000		0.000
		(0.000)		(0.000)		(0.000)
vismin		-0.064*		-0.062*		-0.063*
		(0.031)		(0.031)		(0.031)
leelem		0.043		0.064		0.062
		(0.056)		(0.056)		(0.056)
s_hs		-0.010		-0.010		-0.007
		(0.032)		(0.032)		(0.032)
trade		0.098		0.090		0.091
		(0.053)		(0.053)		(0.053)
scoll		0.113*		0.119**		0.125**
		(0.045)		(0.045)		(0.045)
coll		0.035		0.032		0.038
		(0.040)		(0.040)		(0.040)
s_univ		-0.024		-0.029		-0.026
		(0.053)		(0.053)		(0.053)
gugrad		0.003		0.020		0.021
		(0.040)		(0.040)		(0.040)
nfld		-0.139		-0.144		-0.140
		(0.075)		(0.075)		(0.075)
pei		0.320*		0.357*		0.354*
		(0.142)		(0.142)		(0.142)
ns		-0.051		-0.045		-0.046
		(0.061)		(0.061)		(0.061)
nb		0.036		0.053		0.055
		(0.062)		(0.062)		(0.062)
que		0.048		0.056		0.057
		(0.030)		(0.030)		(0.030)
man		0.008		0.019		0.022
		(0.072)		(0.072)		(0.072)
sask		0.162*		0.192**		0.195**
		(0.068)		(0.068)		(0.068)
alta		0.118**		0.127**		0.128**
		(0.041)		(0.041)		(0.041)
bc		0.050		0.058		0.063
		(0.038)		(0.038)		(0.038)
terr		0.222		0.251		0.263
		(0.206)		(0.206)		(0.206)
dur			-0.235**	-0.233**		
			(0.013)	(0.013)		
dur^2			0.012**	0.012**		
			(0.001)	(0.001)		
dur^3			-0.000**	-0.000**		
			(0.000)	(0.000)		
dur^4			-0.000	-0.000		
			(0.000)	(0.000)		
Duration dummy variables	**No**	**No**	**No**	**No**	**Yes**	**Yes**

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. Prentice-Gloecker-Meyer discrete time proportional hazards estimates are presented with three duration specifications: Models 1 and 2 employ log duration; Models 3 and 4 employ a 4th order polynomial in duration; and Models 5 and 6 employ a full flexible set of dummy variables for each recorded duration (measured in weeks).

Table 36
PGM Semiparametric Hazard Model of Determinants of Unemployment Duration
VQ/Dis Sample

Model :	1	2	3	4	5	6
Depvar:	uspell	uspell	uspell	uspell	uspell	uspell
coep	0.534**	0.367**	0.454**	0.280**	0.453**	0.272**
	(0.048)	(0.054)	(0.049)	(0.055)	(0.049)	(0.055)
logdur	-0.314**	-0.426**				
	(0.020)	(0.022)				
male		0.217**		0.218**		0.214**
		(0.055)		(0.055)		(0.055)
r_ft		0.235**		0.251**		0.252**
		(0.071)		(0.071)		(0.071)
marr		0.049		0.051		0.041
		(0.060)		(0.060)		(0.060)
age		0.005		0.003		0.000
		(0.020)		(0.020)		(0.020)
age2		0.000		0.000		0.000
		(0.000)		(0.000)		(0.000)
vismin		-0.135		-0.113		-0.105
		(0.070)		(0.070)		(0.070)
leelem		0.157		0.258		0.263
		(0.198)		(0.199)		(0.199)
s_hs		-0.053		-0.048		-0.040
		(0.076)		(0.076)		(0.076)
trade		-0.093		-0.140		-0.144
		(0.148)		(0.148)		(0.148)
scoll		0.009		0.044		0.047
		(0.094)		(0.094)		(0.095)
coll		0.171*		0.164		0.165
		(0.085)		(0.085)		(0.085)
s_univ		0.032		0.015		0.023
		(0.110)		(0.110)		(0.110)
gugrad		0.135		0.129		0.121
		(0.093)		(0.093)		(0.094)
nfld		-0.189		-0.154		-0.150
		(0.256)		(0.256)		(0.256)
pei		0.565		0.614		0.574
		(0.412)		(0.413)		(0.416)
ns		0.213		0.216		0.219
		(0.155)		(0.156)		(0.156)
nb		0.164		0.177		0.174
		(0.161)		(0.162)		(0.162)
que		0.143*		0.169*		0.170*
		(0.073)		(0.073)		(0.073)
man		0.028		0.047		0.044
		(0.153)		(0.153)		(0.153)
sask		0.190		0.194		0.194
		(0.142)		(0.142)		(0.142)
alta		0.096		0.105		0.111
		(0.085)		(0.085)		(0.085)
bc		-0.025		-0.016		-0.006
		(0.083)		(0.083)		(0.083)
terr		0.290		0.348		0.340
		(0.453)		(0.455)		(0.457)
dur			-0.530**	-0.525**		
			(0.028)	(0.030)		
dur^2			0.030**	0.030**		
			(0.002)	(0.003)		
dur^3			-0.001**	-0.001**		
			(0.000)	(0.000)		
dur^4			0.000**	0.000**		
			(0.000)	(0.000)		
Duration dummy variables	**No**	**No**	**No**	**No**	**Yes**	**Yes**

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. Prentice-Gloecker-Meyer discrete time proportional hazards estimates are presented with three duration specifications: Models 1 and 2 employ log duration; Models 3 and 4 employ a 4th order polynomial in duration; and Models 5 and 6 employ a full flexible set of dummy variables for each recorded duration (measured in weeks).

Table 37
PGM Semiparametric Hazard Model of Determinants of Unemployment Duration
SW/Oth Sample

Model : Depvar:	1 uspell	2 uspell	3 uspell	4 uspell	5 uspell	6 uspell
coep	0.297**	0.262**	0.290**	0.252**	0.298**	0.259**
	(0.026)	(0.028)	(0.026)	(0.028)	(0.027)	(0.028)
logdur	0.001	-0.020				
	(0.012)	(0.013)				
male		0.190**		0.189**		0.186**
		(0.027)		(0.027)		(0.027)
r_ft		-0.015		-0.021		-0.026
		(0.040)		(0.040)		(0.040)
marr		0.060*		0.061*		0.061*
		(0.028)		(0.028)		(0.028)
age		0.022*		0.023*		0.024*
		(0.009)		(0.009)		(0.009)
age2		0.000		0.000		0.000*
		(0.000)		(0.000)		(0.000)
vismin		-0.048		-0.050		-0.053
		(0.035)		(0.035)		(0.035)
leelem		0.027		0.040		0.037
		(0.061)		(0.061)		(0.061)
s_hs		-0.005		-0.005		-0.003
		(0.037)		(0.037)		(0.037)
trade		0.155**		0.149*		0.149*
		(0.060)		(0.060)		(0.060)
scoll		0.169**		0.173**		0.181**
		(0.052)		(0.052)		(0.052)
coll		0.001		0.000		0.006
		(0.047)		(0.047)		(0.047)
s_univ		-0.043		-0.047		-0.046
		(0.063)		(0.063)		(0.063)
gugrad		-0.027		-0.011		-0.010
		(0.045)		(0.045)		(0.045)
nfld		-0.110		-0.116		-0.114
		(0.080)		(0.080)		(0.080)
pei		0.294		0.323*		0.322*
		(0.157)		(0.157)		(0.157)
ns		-0.086		-0.076		-0.078
		(0.069)		(0.069)		(0.069)
nb		0.072		0.089		0.092
		(0.069)		(0.069)		(0.069)
que		0.028		0.035		0.034
		(0.034)		(0.034)		(0.034)
man		0.016		0.029		0.033
		(0.083)		(0.083)		(0.083)
sask		0.144		0.177*		0.179*
		(0.079)		(0.079)		(0.079)
alta		0.145**		0.158**		0.156**
		(0.049)		(0.049)		(0.049)
bc		0.072		0.082		0.085
		(0.045)		(0.045)		(0.045)
terr		0.204		0.206		0.224
		(0.244)		(0.244)		(0.244)
dur			0.153**	-0.157**		
			(0.015)	(0.015)		
dur^2			0.006**	0.007**		
			(0.001)	(0.001)		
dur^3			0.000	-0.000		
			(0.000)	(0.000)		
dur^4			-0.000**	-0.000**		
			(0.000)	(0.000)		
Duration dummy variables	**No**	**No**	**No**	**No**	**Yes**	**Yes**

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = **. Based on weighted sample from COEP93 and COEP95. Prentice-Gloecker-Meyer discrete time proportional hazards estimates are presented with three duration specifications: Models 1 and 2 employ log duration; Models 3 and 4 employ a 4th order polynomial in duration; and Models 5 and 6 employ a full flexible set of dummy variables for each recorded duration (measured in weeks).

6. Summary and Conclusions

In summary, this report has made use of a valuable new dataset created by combining the COEP93 and COEP95 surveys, together with related administrative records. It has reported on research that investigated the determinants of unemployment durations, UI benefit durations, and the joint determination of these durations, with particular attention to the role played by a quasi-experimental effect associated with the C-17 legislative changes that took place in 1994. Using a variety of econometric models of duration analysis, and using a variety of alternative sets of explanatory variables in addition to the quasi-experimental coep effect, it was found that the results appear quite robust to these alternative modelling procedures. Since such consistency is by no means always the case, it is important to stress the apparent stability we have found in this estimated effect.

... it was found that the results appear quite robust to these alternative modelling procedures ... it is important to stress the apparent stability we have found in this estimated effect.

The main result is that the estimated coep effect is always positive and significant for the hazard, so that being in the COEP95 group (as opposed to the COEP93 group), and hence being affected by the provisions of the C-17 change, operated to raise the hazard out of unemployment or benefit receipt, and hence significantly to reduce the duration as a consequence. Such a conclusion is consistent with the nature of the C-17 provisions, particularly the significant reductions in entitlement and eligibility. However, given the failure to find similar effects in much of the research on Canadian UI (see, e.g., Corak 1994, Jones 1994), the present result is more clear-cut than might have been expected. This is probably a consequence of the clear policy change in C-17, particularly the important changes in entitlement and eligibility provisions, and the quasi-experimental design enabled by the two COEPs which facilitated isolation of the labour market effects of the C-17 changes.

Appendices

Table A1
Definitions of Variables used in Analysis

coep	1 if in COEP95, 0 if in COEP93
localu	regional unemployment rate at time of separation (from ROE)
male	1 if male, 0 otherwise
r_ft	1 if reference (ROE) job reported full-time, 0 otherwise
marr	1 if currently married, 0 otherwise
age	age in years at ROE date
age2	age squared
vismin	1 if of visible minority status, 0 otherwise
leelem1	if education less than or equal to elementary, 0 otherwise
s_hs	1 if some high school, 0 otherwise
trade	1 if some trade qualification, 0 otherwise
scoll	1 if some college, 0 otherwise
coll	1 if college education, 0 otherwise
s_univ	1 if some university, 0 otherwise
gugrad	1 if education equal to or greater than undergraduate, 0 otherwise
nfld	provincial dummy
pei	provincial dummy
ns	provincial dummy
nb	provincial dummy
que	provincial dummy
man	provincial dummy
sask	provincial dummy
alta	provincial dummy
bc	provincial dummy
terr	dummy variable for Territories

Table A2
Cox Partial Likelihood Determinants of Unemployment Spells
Full Unweighted Sample

Model :	1	2	3	4
# obs :	11857	11855	10251	10250
Depvar:	uspell	uspell	uspell	uspell
coep	0.399**	0.404**	0.278**	0.283**
	(0.023)	(0.023)	(0.024)	(0.025)
localu		0.004		0.003
		(0.003)		(0.004)
male			0.183**	0.183**
			(0.024)	(0.024)
r_ft			0.055	0.054
			(0.033)	(0.033)
marr			0.026	0.025
			(0.025)	(0.025)
age			0.004	0.004
			(0.008)	(0.008)
age2			0.000	0.000
			(0.000)	(0.000)
vismin			-0.030	-0.030
			(0.031)	(0.031)
leelem			0.088	0.088
			(0.056)	(0.056)
s_hs			-0.005	-0.005
			(0.032)	(0.032)
trade			0.041	0.040
			(0.053)	(0.053)
scoll			0.067	0.067
			(0.045)	(0.045)
coll			0.084*	0.085*
			(0.040)	(0.040)
s_univ			-0.007	-0.007
			(0.053)	(0.053)
gugrad			-0.048	-0.048
			(0.040)	(0.040)
nfld			-0.077	-0.096
			(0.075)	(0.078)
pei			0.299*	0.282*
			(0.142)	(0.143)
ns			0.103	-0.114
			(0.061)	(0.062)
nb			0.080	0.073
			(0.061)	(0.062)
que			0.088**	0.080*
			(0.030)	(0.031)
man			0.098	0.099
			(0.072)	(0.072)
sask			0.208**	0.210**
			(0.068)	(0.068)
alta			0.153**	0.154**
			(0.041)	(0.041)
bc			0.124**	0.123**
			(0.038)	(0.038)
terr			0.415*	0.371
			(0.206)	(0.211)

Note: Standard errors in parentheses with $p<0.05$ = *, $p<0.01$ = *. Based on unweighted sample from COEP93 and COEP95.

Table A3
Cox Partial Likelihood Determinants of Unemployment Spells
Various Unweighted Samples (see notes)

Model :	1	2	3	4	5
# obs :	3451	3776	10217	6479	8857
Depvar:	uspell	uspell	uspell	uspell	uspell
coep	0.199**	0.401**	0.246**	0.266**	0.277**
	(0.042)	(0.039)	(0.026)	(0.032)	(0.026)
localu	0.003	0.006	0.007	0.001	0.002
	(0.006)	(0.006)	(0.004)	(0.005)	(0.004)
male	0.188**	0.255**	0.168**	0.118**	0.195**
	(0.042)	(0.039)	(0.024)	(0.030)	(0.026)
r_ft	0.186**	0.045	0.070*	0.029	0.066
	(0.060)	(0.054)	(0.034)	(0.042)	(0.036)
marr	0.065	0.038	0.025	0.046	0.035
	(0.045)	(0.041)	(0.025)	(0.031)	(0.027)
age	0.016	0.014	0.005	0.006	0.008
	(0.015)	(0.013)	(0.008)	(0.011)	(0.010)
age2	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
vismin	-0.012	-0.097	-0.028	-0.035	-0.037
	(0.055)	(0.050)	(0.031)	(0.039)	(0.034)
leelem	0.030	0.037	0.083	0.097	0.083
	(0.116)	(0.082)	(0.056)	(0.073)	(0.060)
s_hs	-0.112	0.009	-0.015	0.009	-0.026
	(0.059)	(0.051)	(0.032)	(0.043)	(0.035)
trade	-0.156	0.166	0.033	0.067	0.020
	(0.101)	(0.091)	(0.053)	(0.068)	(0.057)
scoll	0.016	0.140	0.074	0.052	0.099*
	(0.076)	(0.078)	(0.045)	(0.056)	(0.048)
coll	0.070	0.059	0.096*	0.091	0.074
	(0.064)	(0.067)	(0.040)	(0.050)	(0.043)
s_univ	0.049	-0.056	-0.005	-0.031	-0.032
	(0.089)	(0.087)	(0.053)	(0.068)	(0.058)
gugrad	-0.067	-0.108	-0.032	0.028	-0.030
	(0.066)	(0.066)	(0.040)	(0.048)	(0.043)
nfld	-0.063	-0.115	-0.122	-0.078	-0.168*
	(0.148)	(0.116)	(0.078)	(0.106)	(0.081)
pei	0.406	0.260	0.258	0.284	0.203
	(0.293)	(0.203)	(0.143)	(0.183)	(0.149)
ns	-0.008	-0.227*	-0.117	-0.138	-0.172*
	(0.113)	(0.097)	(0.062)	(0.080)	(0.067)
nb	0.022	0.111	0.061	0.098	0.029
	(0.121)	(0.092)	(0.062)	(0.083)	(0.066)
que	0.167**	-0.047	0.082**	0.068	0.047
	(0.056)	(0.051)	(0.032)	(0.040)	(0.034)
man	0.189	0.030	0.082	0.163	0.071
	(0.125)	(0.114)	(0.072)	(0.092)	(0.077)
sask	0.383**	0.135	0.213**	0.167	0.215**
	(0.114)	(0.115)	(0.068)	(0.086)	(0.072)
alta	0.295**	0.066	0.154**	0.052	0.130**
	(0.067)	(0.075)	(0.041)	(0.054)	(0.045)
bc	0.058	0.087	0.123**	0.139**	0.130**
	(0.068)	(0.066)	(0.038)	(0.048)	(0.042)
terr	0.407	-0.368	0.328	0.326	0.095
	(0.330)	(0.458)	(0.211)	(0.268)	(0.273)
elig			-0.055		
			(0.040)		
elgwks			-0.003**		
			(0.001)		
ui3of5					0.158**
					(0.026)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = *. Based on unweighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; model 3 studies the effects of eligibility for the full sample; model 4 is estimated only for those eligible for UI; and model 5 studies the effect of past claim history.

Table A4
Cox Partial Likelihood Determinants of Unemployment Spells
VQ/Dis Unweighted Sample

Model :	**1**	**2**	**3**	**4**
# obs :	**2567**	**2567**	**1947**	**1947**
Depvar:	**uspell**	**uspell**	**uspell**	**uspell**
coep	0.468**	0.496**	0.202**	0.224**
	(0.049)	(0.050)	(0.055)	(0.057)
localu		0.017*		0.014
		(0.007)		(0.009)
male			0.165**	0.166**
			(0.055)	(0.055)
r_ft			0.216**	0.214**
			(0.071)	(0.071)
marr			-0.001	-0.005
			(0.060)	(0.060)
age			-0.018	-0.018
			(0.021)	(0.021)
age2			0.000	0.000
			(0.000)	(0.000)
vismin			-0.015	-0.014
			(0.070)	(0.070)
leelem			0.014	0.004
			(0.197)	(0.197)
s_hs			-0.045	-0.049
			(0.076)	(0.076)
trade			-0.153	-0.156
			(0.148)	(0.148)
scoll			0.018	0.017
			(0.094)	(0.094)
coll			0.126	0.130
			(0.085)	(0.085)
s_univ			0.068	0.071
			(0.110)	(0.110)
gugrad			0.021	0.025
			(0.093)	(0.094)
nfld			-0.122	-0.135
			(0.256)	(0.256)
pei			0.702	0.663
			(0.413)	(0.414)
ns			0.070	0.036
			(0.156)	(0.158)
nb			0.105	0.085
			(0.161)	(0.162)
que			0.183*	0.147
			(0.072)	(0.077)
man			-0.055	-0.051
			(0.153)	(0.153)
sask			0.067	0.071
			(0.142)	(0.142)
alta			0.180*	0.184*
			(0.085)	(0.085)
bc			0.019	0.015
			(0.083)	(0.083)
terr			0.558	0.394
			(0.454)	(0.468)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = *. Based on unweighted sample from the COEP93 and COEP95.

Table A5
Cox Partial Likelihood Determinants of Unemployment Spells
VQ/Dis unweighted sample and subsamples

Model :	1	2	3	4	5
# obs :	922	213	1934	1197	1561
Depvar:	uspell	uspell	uspell	uspell	uspell
coep	0.339**	0.228	0.234**	0.336**	0.233**
	(0.106)	(0.207)	(0.060)	(0.075)	(0.063)
localu	0.019	-0.036	0.011	0.027*	0.013
	(0.015)	(0.036)	(0.010)	(0.012)	(0.010)
male	0.203*	0.262	0.165**	0.110	0.214**
	(0.082)	(0.197)	(0.055)	(0.070)	(0.062)
r_ft	0.360**	0.301	0.217**	0.328**	0.218**
	(0.103)	(0.243)	(0.072)	(0.098)	(0.080)
marr	0.130	-0.253	-0.004	0.055	0.047
	(0.091)	(0.205)	(0.060)	(0.075)	(0.067)
age	0.007	0.092	-0.017	-0.016	0.008
	(0.032)	(0.067)	(0.021)	(0.030)	(0.033)
age2	0.000	-0.001	0.000	0.000	0.000
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
vismin	0.001	-0.527*	-0.011	0.055	-0.073
	(0.110)	(0.237)	(0.070)	(0.088)	(0.081)
leelem	0.006	-0.065	0.000	0.021	0.040
	(0.272)	(0.552)	(0.197)	(0.283)	(0.224)
s_hs	-0.119	0.040	-0.040	-0.126	-0.087
	(0.123)	(0.235)	(0.076)	(0.104)	(0.088)
trade	-0.318	-0.143	-0.153	-0.227	-0.170
	(0.261)	(0.486)	(0.148)	(0.196)	(0.166)
scoll	-0.005	-0.091	0.020	-0.001	0.069
	(0.139)	(0.317)	(0.095)	(0.117)	(0.106)
coll	0.099	-0.056	0.133	0.039	0.059
	(0.115)	(0.292)	(0.085)	(0.110)	(0.095)
s_univ	0.016	0.406	0.068	0.005	0.061
	(0.161)	(0.352)	(0.111)	(0.142)	(0.124)
gugrad	0.024	-0.542	0.028	0.071	-0.006
	(0.131)	(0.337)	(0.094)	(0.112)	(0.104)
nfld	-0.326	0.548	-0.131	-0.483	-0.194
	(0.509)	(0.698)	(0.256)	(0.362)	(0.275)
ns	0.465	-0.616	0.042	-0.103	0.036
	(0.242)	(0.548)	(0.158)	(0.195)	(0.176)
nb	0.115	-0.307	0.075	0.146	0.060
	(0.249)	(0.617)	(0.162)	(0.214)	(0.176)
que	0.201	-0.082	0.147	0.052	0.110
	(0.110)	(0.254)	(0.077)	(0.101)	(0.087)
man	-0.013	0.268	-0.056	-0.176	-0.017
	(0.221)	(0.411)	(0.153)	(0.215)	(0.167)
sask	0.223	-0.257	0.069	-0.004	0.134
	(0.199)	(0.487)	(0.142)	(0.180)	(0.157)
alta	0.306*	-0.177	0.174*	0.074	0.151
	(0.128)	(0.259)	(0.085)	(0.111)	(0.095)
bc	-0.146	-0.255	0.013	-0.054	-0.006
	(0.136)	(0.282)	(0.083)	(0.102)	(0.096)
terr	0.064	-0.368	0.413	-0.149	0.105
	(0.737)	(0.458)	(0.468)	(0.618)	(0.721)
pei	0.406	0.491	0.661	0.753	0.720
	(0.293)	(0.787)	(0.414)	(0.587)	(0.455)
elig			-0.130		
			(0.108)		
elgwks			0.002		
			(0.003)		
ui3of5					0.021
					(0.070)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = *. Based on unweighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; model 3 studies the effects of eligibility for the full sample; model 4 is estimated only for those eligible for UI; and model 5 studies the effect of past claim history.

Table A6
Cox Partial Likelihood Determinants of Unemployment Spells
SW/Oth Unweighted Sample

Model :	1	2	3	4
# obs :	8474	8472	7810	7809
Depvar:	uspell	uspell	uspell	uspell
coep	0.365**	0.366**	0.310**	0.315**
	(0.026)	(0.027)	(0.028)	(0.028)
localu		0.001		0.003
		(0.003)		(0.004)
male			0.195**	0.195**
			(0.027)	(0.027)
r_ft			0.007	0.007
			(0.040)	(0.040)
marr			0.049	0.049
			(0.028)	(0.028)
age			0.011	0.010
			(0.010)	(0.010)
age2			0.000	0.000
			(0.000)	(0.000)
vismin			-0.036	-0.037
			(0.035)	(0.035)
leelem			0.087	0.086
			(0.061)	(0.061)
s_hs			-0.006	-0.007
			(0.037)	(0.037)
trade			0.057	0.057
			(0.060)	(0.060)
scoll			0.098	0.098
			(0.052)	(0.052)
coll			0.063	0.065
			(0.047)	(0.047)
s_univ			-0.038	-0.037
			(0.063)	(0.063)
gugrad			-0.085	-0.084
			(0.045)	(0.045)
nfld			-0.051	-0.072
			(0.080)	(0.084)
pei			0.223	0.206
			(0.157)	(0.158)
ns			-0.115	-0.127
			(0.069)	(0.070)
nb			0.101	0.094
			(0.068)	(0.069)
que			0.069*	0.061
			(0.034)	(0.036)
man			0.178*	0.179*
			(0.083)	(0.083)
sask			0.251**	0.253**
			(0.079)	(0.079)
alta			0.142**	0.143**
			(0.049)	(0.049)
bc			0.155**	0.155**
			(0.045)	(0.045)
terr			0.348	0.305
			(0.244)	(0.250)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = *. Based on unweighted sample from the COEP93 and COEP95.

Table A7
Cox Partial Likelihood Determinants of Unemployment Spells
SW/Oth unweighted sample and subsamples

Model :	1	2	3	4	5
# obs :	2468	3403	7791	4890	6860
Depvar:	uspell	uspell	uspell	uspell	uspell
coep	0.140**	0.429**	0.264**	0.261**	0.301**
	(0.050)	(0.041)	(0.030)	(0.038)	(0.030)
localu	0.000	0.009	0.008*	0.000	0.001
	(0.007)	(0.006)	(0.004)	(0.005)	(0.004)
male	0.187**	0.266**	0.178**	0.121**	0.196**
	(0.050)	(0.041)	(0.027)	(0.034)	(0.029)
r_ft	0.105	0.026	0.023	-0.037	0.025
	(0.076)	(0.058)	(0.040)	(0.049)	(0.043)
marr	0.067	0.062	0.047	0.059	0.053
	(0.052)	(0.042)	(0.028)	(0.036)	(0.030)
age	0.025	0.000	0.011	0.016	0.010
	(0.017)	(0.014)	(0.010)	(0.013)	(0.011)
age2	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
vismin	-0.021	-0.076*	-0.031	-0.067	-0.028
	(0.065)	(0.053)	(0.035)	(0.046)	(0.039)
leelem	0.010	0.046	0.080	0.095	0.083
	(0.130)	(0.085)	(0.061)	(0.080)	(0.064)
s_hs	-0.088	-0.001	-0.020	0.012	-0.020
	(0.069)	(0.054)	(0.037)	(0.049)	(0.039)
trade	-0.123	0.171	0.049	0.095	0.040
	(0.111)	(0.095)	(0.060)	(0.076)	(0.063)
scoll	0.021	0.186*	0.110*	0.058	0.134*
	(0.093)	(0.083)	(0.053)	(0.066)	(0.056)
coll	0.037	0.068	0.080	0.095	0.074
	(0.080)	(0.071)	(0.047)	(0.059)	(0.051)
s_univ	0.097	-0.064	-0.033	-0.035	-0.070
	(0.109)	(0.092)	(0.063)	(0.081)	(0.069)
gugrad	-0.112	-0.093	-0.065	0.006	-0.053
	(0.078)	(0.068)	(0.045)	(0.055)	(0.049)
nfld	0.012	-0.147	-0.106	0.008	-0.155*
	(0.159)	(0.119)	(0.084)	(0.115)	(0.087)
pei	0.456	0.177	0.177*	0.185	0.102
	(0.296)	(0.216)	(0.158)	(0.205)	(0.165)
ns	-0.082	-0.215*	-0.135	-0.118	-0.206**
	(0.130)	(0.101)	(0.070)	(0.092)	(0.076)
nb	0.021	0.158	0.080	0.138	0.033
	(0.142)	(0.094)	(0.069)	(0.093)	(0.073)
que	0.162*	-0.074	0.067	0.066	0.030
	(0.066)	(0.054)	(0.036)	(0.046)	(0.038)
man	0.329*	-0.002	0.161	0.292**	0.136
	(0.153)	(0.121)	(0.083)	(0.103)	(0.088)
sask	0.437**	0.145	0.260**	0.184	0.229**
	(0.142)	(0.120)	(0.079)	(0.103)	(0.084)
alta	0.303**	0.097	0.150**	0.027	0.120*
	(0.080)	(0.081)	(0.049)	(0.064)	(0.053)
bc	0.134	0.086	0.152**	0.199**	0.169**
	(0.081)	(0.070)	(0.045)	(0.057)	(0.049)
terr	0.464	-0.430	0.235	0.348	0.023
	(0.393)	(0.458)	(0.251)	(0.311)	(0.322)
elig			-0.051		
			(0.044)		
elgwks			-0.004**		
			(0.001)		
ui3of5					0.205**
					(0.029)

Note: Standard errors in parentheses with p<0.05 = *, p<0.01 = *. Based on unweighted sample from COEP93 and COEP95. Model 1 is for sample reporting that they do not expect return to the reference job; model 2 is for the sample reporting that they expect return to the reference job; model 3 studies the effects of eligibility for the full sample; model 4 is estimated only for those eligible for UI; and model 5 studies the effect of past claim history.

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